REPORT RESUMES

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PROCEEDINGS OF THE CONFERENCE ON AID TO THE VISUALLY LIMITED (WASHINGTON, D.C., MARCH 24-25, 1966).

BY- MARGACH, CHARLES AND OTHERS

AMERICAN OPTOMETRIC ASSN., ST. LOUIS, MO.

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THIS CONFERENCE WAS CALLED TO IDENTIFY AND MEET THE NEEDS OF THE VISUALLY HANDICAPPED. THE PROBLEMS OF IDENTIFYING AND DEFINING THE VISUALLY LIMITED WITH IMPLICATIONS FOR PLACEMENT IN VOCATIONS AND VOCATIONAL TRAINING ARE CONSIDERED. PAPERS ON SERVING THE VISUAL NEEDS OF THE VISUALLY LIMITED DESCRIBE OCULAR PATHOLOGIES, VISION CARE, DEGREE OF VISION RELATED TO VOCATION, AND NONVISUAL READING DEVICES. ALSO DISCUSSED ARE SOCIAL AND ECONOMIC SERVICES INCLUDING MEDICAL ASSISTANCE, PREVENTION OF BLINDNESS, LARGE PRINT BOOKS, AND COMMUNITY AND FEDERAL PROGRAMS OF ASSISTANCE. INFORMATION ON PROBLEMS IN IDENTIFYING THE VISUALLY LIMITED IN A STATISTICAL SENSE AND ON METHODS OF COMMUNICATING SERVICES TO THEM IS INCLUDED. RESEARCH IN CLINICAL OPTOMETRY, PSYCHOLOGY OF THE USE OF LOW VISION AIDS, DEVELOPMENT OF SENSORY AIDS, AND IMPLICATIONS FOR FUTURE SERVICE ARE CONSIDERED, AND INFORMATION IS GIVEN ON CONTINUING FEDERAL PROGRAMS, VOLUNTARY COMMUNITY ACTION, AND GROUP HEALTH INSURANCE. QUESTION AND ANSWER SESSIONS AT THE CONFERENCE ARE RECORDED. (KH)

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PROCEEDINGS
OF THE
CONFERENCE ON AID TO
THE VISUALLY LIMITED

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PROCEEDINGS
OF THE
CONFERENCE ON AID TO THE VISUALLY LIMITED

* * * * * *

The objectives of this Conference were to
identify the needs,
economic, visual, social, vocational and
avocational,
of our visually-limited people
and to
seek ways and means
by which those needs may better be met.

* * * * * *

Sponsored by

THE AMERICAN OPTOMETRIC ASSOCIATION

through its

Committee on Aid to the Partially-Sighted

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March 24 and 25, 1966

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CONFERENCE ON AID TO THE VISUALLY-LIMITED
March 24 and 25, 1966
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FOREWORD

Hayvis Woolf*

"Aid to the Visually-Limited" infers the broadest possible horizons of concern for those among us who, for whatever reason, are suffering economically or socially from a visual limitation. The problems of identifying and serving these people involve a vast complex of services which, at this Conference, have been brought to a common point to plan for their future welfare.

Education of the optometric profession to the vast challenge was the primary objective of the conference. The extent to which this goal was achieved can, in part at least, be judged from the list of governmental and of private agencies participating in the sessions. The enthusiasm and competence with which these participants addressed themselves to the task at hand demonstrated the depth of their concern. To see that that expression of concern shall have fallen on fertile ground is the current responsibility of the profession of optometry and is the objective to which the publication of these "Proceedings" is immediately directed.

From our youngest to our oldest, existence in a world unnecessarily visually-limited is unjust and socially, as well as economically, deplorable. Every effort must be brought, as promptly as possible, to the maximum reduction of these limitations. This Conference afforded the platform upon which forward action into these areas of responsibility can be, and must be, based.

575 Pontiac Avenue
Cranston, Rhode Island 02910

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*O.D., Chairman, Committee on Administrative Agencies, American Optometric Association

CONFERENCE SCHEDULE

THURSDAY, MARCH 24, 1966

8:30 a.m. - Registration

9:15 a.m. - Invocation - The Reverend Otto Schuetze Christ Lutheran Church, Bethesda, Maryland

9:20 a.m. - Welcome - Henry J. Hoff, O.D., President, The Optometric Society of the District of Columbia

9:25 a.m. - Keynote Address - V. Eugene McCrary, O.D., President, American Optometric Association

10:00 a.m. - Panel 1: "Identifying our Visually-Limited People"

12:15 p.m. - Conference Luncheon. Chinese Room of the Mayflower Hotel. Guest Speaker: The Honorable John E. Fogarty, Congressman from Rhode Island

2:00 p.m. - Panel 2: "Serving the Visual Needs of our Visually-Limited People"

4:45 p.m. - Recess for dinner

7:00 p.m. - Panel 3: "Serving the Social and Economic Needs of our Visually-Limited People"

9:30 p.m. - Adjournment

FRIDAY, MARCH 25, 1966

9:00 a.m. - Panel 4: "Reaching our Visually-Limited People"

11:45 a.m. - Recess for lunch

1:15 p.m. - Panel 5: "Planning for the Future"

3:45 p.m. - Conference Summary

4:00 p.m. - Adjournment sine die

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Each panel session opened with several brief papers. The audience then broke into small discussion groups. The panelists then returned to receive questions from the discussion groups.

The Conference Committee wishes to acknowledge the following organizations and institutions which were represented by observers at the Conference:

- Chicago Lighthouse for the Blind
- Industrial Home for the Blind (Brooklyn)
- National Federation of the Blind
- National Society for the Prevention of Blindness
- U. S. Army
- U. S. Navy
- U. S. Air Force
- American Public Health Association
- National Institutes of Health, Visual Sciences Study Section
- Sinai Hospital of Detroit
- Library Services Branch, U. S. Office of Education

The above groups are in addition to those groups represented by panel participants as identified in various portions of these *Proceedings.*

KEYNOTE ADDRESS

V. Eugene McCrary*

First of all, I extend to the participants of this conference the official greetings of the Officers and Board of Trustees of the American Optometric Association. We are very proud to be able to play a role in this conference, in what we feel will be a very worth-while endeavor. I want to speak with you for just a few moments today about the new challenges facing the profession of optometry.

Assembled in this room are a large number of important people--key figures in the common war against the waste of human resources due to vision impairment. We are all dedicated to the proposition that everyone in our great nation should have the opportunity to attain full stature--socially, emotionally, intellectually, and economically--as an individual member of society.

This has been called a "Conference on Aid to the Visually-Limited". If it had been held a few years ago, it might well have been called a "Conference on Vision Aid to the Partially-Blind". The differences between these two titles epitomize the objectives of this conference and are well worth analyzing in some detail.

Not too many years ago, the American Optometric Association officially recognized a basic change in viewpoint by adopting the term "partially-sighted" to replace "partially-blind". Today we are focusing our thoughts and actions on ability rather than disability. Our special challenge in vision care, in working with patients with visual impairments, is to assist them by every means possible to achieve independent social and economic status in our visually-centered society.

The profession of optometry, in the United States, cares for approximately seventy-five percent of the visual needs of the public. In that care there are involved several basic, unique concepts. In a clinical sequence which includes case history, examination for pathology (external and internal), refraction (visual acuity Rx), visual analysis, and final disposition, the optometrist conducts his examination without the use of "drops" in the patient's eyes. Dynamic vision, with the two eyes working together, cannot be examined in that state. In fact, no evaluation of nearpoint vision can be made while the focusing mechanism is under the paralyzing influence of drugs.

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*O.D., President, American Optometric Association

The examination for pathology is an early and integral part of an optometric examination. In his never-ending search for signs of pathology, the optometrist utilizes clues from the case history, direct observations, ophthalmoscopy, ocular mobility tests, ophthalmometry, Schiotz scleral tonometry and electronic tonometry, visual fields (perimetry, tangent screen, and campimetry) biomicroscopy (slit lamp), and other instruments.

In the textbook _The Optometrist's Handbook of Eye Diseases,_ by Joseph I. Pascal, M.D. and Harold G. Noyes, M.D., printed by C.V. Mosby Company, the authors state in the preface:

"The importance of the subject can be appreciated from the fact that the optometrist in the course of his professional work is bound to come in contact with eyes which may be diseased. In fact, he may be the first to come across diseases of the eye which, because of their unobtrusive nature, that is, lack of startling objective or subjective symptoms, may send the patient to the optometrist first, for example glaucoma simplex or diabetic retinopathy. Sometimes the eyes he sees may be in a stage of active inflammation, or they may present the sequelae of some previous disease which has already run its course.

"Thus, the optometrist is sometimes the most important member of the healing professions with regard to the patient getting the quickest medical or surgical service. To perform this service successfully he need only know, sometimes merely suspect, pathological deviations from the normal. This is his principal concern. Of course he must also be sufficiently familiar with the physiological deviations from the normal so as to know when a referral to the medical practitioner is necessary and when it is not. Differential (pathological) diagnosis is a large and difficult field. A medical specialist with all his training in this direction, with many facilities for making all kinds of auxiliary tests, is sometimes unable to make a differential diagnosis. What good is it for the optometrist to involve himself in such work?"

The authors also state on page nineteen, under the heading "The Optometrist in Relation to Eye Diseases":

"In any survey of the care of the eyes in civilized communities it will be found that the great majority of citizens depend for the relief of their common visual disturbances on refracting opticians, ophthalmic opticians, and, in America, optometrists. This means that the first line in detecting early disease processes and frequently in preventing blindness is held by these practitioners. Hence, the great importance of learning to detect signs which point to derangements of the eyes or to the body in general."

It is out of this general background that we have evolved the statement that "Optometry represents the first line of defense against blindness in the United States today."

Next, I stress the significant increase in the variety of technical materials and instruments available to us. I shall not dwell on this phase of the topic as it shall undoubtedly come into consideration this afternoon in Session Number Two. However, I do urge all of you to look over the demonstration of low vision aids provided for your information outside the entrance doors. New materials and new techniques of processing have been key elements in this development.

Optometrists have been largely responsible for the development of optical devices for the partially sighted. Our interest began years ago in the infancy of this phase, and we are continuing to add even more to the fund of knowledge in this field.

I wish to pay tribute to the multitude of optometrists today who, across the land, are providing assistance to low vision patients in their offices and to the optometric consultants in low vision clinics working as members of inter-disciplinary teams.

The second factor in the growth of our abilities to help these people as never before is our burgeoning knowledge of the nature of vision itself--its keener insights into the development and the function of vision. This topic will be the special concern of one of the papers on Panel Number Two--the one by Dr. Wisman--but I cannot resist adding a few words of emphasis at this point. Low vision devices are available to all who are legally qualified to prescribe them--in fact, many of the aids which you can see in the other room are "over-the-counter" items, available to anyone, without prescription. What the profession of optometry brings, uniquely, to the low vision situation is not a set of devices or a mechanical set of "fitting procedures", but rather a point of view; if you will, a dynamic, holistic philosophy of vision care. We are convinced that a segmented approach is pitifully inadequate. I urge your careful consideration of this holistic aspect of Dr. Wisman's material.

We in optometry have been and must continue to do an even better job of utilizing all of our talents so as to render the finest of care to each and every patient to assist him to reach his highest social and economic potential by functioning to the maximum capacity of his visual abilities.

Historically, optometry, through the use of optical devices, has aided patients from a mechanistic point of view; however, the modern approach of more recent years is to consider the whole person. We must deal with the factor of the dignity and unity of man and teach the skills necessary to achievement of the maximum degree of rehabilitation possible.

Akin to this emphasis on vision as a trainable skill, is the attitude of optometry toward the particular problem of each individual patient. No longer can we limit our horizons to "vision" aids. We must be prepared to assist our patients in any direction in which they need assistance. Thus we talk in terms of "aid", with no qualifying adjectives.

To the modern optometrist, academically strong in the areas of behavioral science as a result of emphasis in this direction in our professional schools (which emphasis is undoubtedly destined to increase as all of our educational programs become six years in length) vision is viewed, not as an innate, automatic, primarily optical, "reflex", but rather as an aspect--albeit a dominating one--of the total behavior of a person operating in a specific environment. This optometrist approaches his professional task from the point of view that vision is a trainable skill--as amenable to training as is speech or the learning of the multiplication table--and that any mechanical or optical aids utilized in that teaching process are only incidental to the larger "picture". Aids are only the means to a larger end.

Many of these visually limited persons have been and are today on our blind pension roles, in our schools for the blind and in special classes in our school systems. Many are unemployed because they have not had the opportunity or advantage of a low vision examination by an optometrist with appropriate corrective measures instituted. Instances are too frequently turning up of persons who have been enrolled or cared for as a blind person but who, after competent optometric care, return to primary dependence upon visual clues. For example: a student in a school for the blind for eleven years is now able to read Jaeger two size type and goes to college, doing his own reading;

a child failing in school in sixth grade is assisted with devices that eliminate personal reader and he goes on to graduate; an adult breadwinner, unemployed for four years due to visual limitations is able to return to his original job and become a supervisor after receiving optometric care. Social and economic aid was achieved, minimizing the debilitating effects of the original condition by competent optometric care. Unquestionably, a number of the social and economic problems of the partially sighted can be eliminated or minimized through patients having the opportunity of receiving professional optometric care. Thus, we feel that admission to a school for the blind or sight saving class should have as a requirement a prior examination by one skilled in the examination of the partially sighted--a functionally oriented specialist.

On the other hand, optometry needs to know the extent and availability of other services on national, state and local levels. We solicit the participants at this conference to assist our profession in establishing ties of cooperation with your agency and services. We must search together for the answer to this question--"How can we best serve the visually limited people of this nation to achieve the maximum utilization of their human potential"?

We in optometry need to deepen our understanding of the varieties of help that are available, both social and economic, to the visually limited. Visual rehabilitation is an extremely important objective in the work the optometrist does today. While total rehabilitation embraces a spectrum of services, visual rehabilitation is one of the fundamental steps on the road toward larger goals.

Because it is only a part of the picture, we must factor in the total person--socially, intellectually, psychologically and economically--as well as visually. This is why we feel so strongly today that it is the team approach which offers the best answers, the most hope for the future in working with the visually limited.

The emphasis of this Conference is heavily in this direction. With a generosity of their time and knowledge, far and above and beyond "the call of duty", we shall have with us during these two days of this Conference, a half-hundred experts who are specialists in the social and economic aspects of rehabilitation. We have gathered this team at this conference, to learn all we can from them in this short time, to the end that we, the optometric profession, might gather new understanding and thereby bring new light and hope into the lives of our patients.

We want to learn how better to integrate our professional services with the services of other professionals who will be working with our patients, so as to enable us to do a better job of referral. In terms of the specific patient, we want to be able to offer him sound advice and guidance on how to establish contact with all available social and economic resources so as to bring himself, with our assistance, into the fullness of a socially and economically integrated life. We are eager to learn more about the role to be played by each team member.

It might clarify my point a bit to observe that, at the moment, and for a certain segment of the population, services of the type to which I refer here, already exist. Throughout the length and breadth of our land there are organized, efficient, knowledgeable agencies--both public and private--whose sole objective is to serve the people of our nation who are visually limited enough to be labeled "legally blind". In the vast majority of our states, it is necessary only to establish contact between the patient and his state's agency for the blind, and integration problems are immediately in skilled, experienced hands.

This same level of organization--in social and economic rehabilitative services--is NOT available for those who are visually limited, but not enough limited so as to qualify for assistance as "legally blind". This large group of people--who have been called "the forgotten people"--is presumably much larger than the group of the legally-blind (note that we do not even have a firm study of how many there are in this group, let alone any definitive work as to their special needs) yet they are largely without special resources. They have many of the problems of the legally blind. They cannot be licensed to operate motor vehicles; they can't read many of the commonest sources of the printed work; they can't begin to cope with the visual demands of many, many jobs in our increasingly visually-centered commerce and industry. Yet there is no source of organized, knowledgeable guidance for these people as they seek their goal of living a full, meaningful productive life.

It is our hope that optometry, as the profession initially involved in bringing these people to the maximum of their visual performances, may also become more proficient in counseling them thoroughly and wisely on the larger aspects of their problem. We sincerely hope that one of the results of this Conference will be a significantly increased ability on the part of our profession to discharge this enlarged responsibility.

Two points are left--which I would like to stress. The first stems from the fact that, particularly because of their economic situation, a significant proportion of these people do not have financial resources available to them to meet the costs of this kind of optometric care. Optometry stands ready to work cooperatively with social and welfare agencies in searching for more effective ways to cope with this problem. The cost of this care is really a responsibility of the people of the United States. Furthermore, it is essential to realize that, in the larger sense, such programs are fundamentally self-sustaining. The people who are not socially and economically independent as a consequence of visual limitations are being maintained today by one or more forms of public assistance. It is our desire to help them become contributing members of society, with the realization that the cost of this help is far less than the cost of continuing to support them in their non-productive, dependent role.

Optometry wants suggestions and guidance in this aspect of the problem. There are many things we should know and we desire to become more knowledgeable so as better to be able to do our part in bringing these people into economic productivity, or at least into full stature as socially independent individuals. We seek answers to such questions as: How can the costs of such rehabilitative activities--(and as you know their per capita demand in terms of hours is very high)--be met? Are publically-supported vision care clinics part of the answer? We turn to you, our guests and mentors at this Conference, for suggestions and guidance.

Optometry reaffirms its desire and feels its responsibility to provide visual care to all of the people, and not to just most of the people. We are not now adequately meeting this need; we need to learn how to do it. We need assistance in more efficiently organizing and distributing vision care. We are prepared to admit that our traditional form of private, individual practice is in many ways insufficient and inadequate to meet the growing visual needs of the American public. We seek more effective ways of discharging our public responsibility for the visual care of the people of the United States of America.

Optometry is rapidly moving to expand her professional horizons--to make them more compatible with 1966's social conscience. We look forward to the day when no one shall suffer from lack of full optometric care due to financial, or any other, reasons. May we then dedicate this Conference to optometry's resolve that every man, woman and child of our nation who, because of visual limitations, is impeded socially, economically, developmentally, or academically, be given the opportunity to have his problems solved and thereby, be able to live a happier, more productive life with dignity and independence. Optometry, and those of you, our friends who are participating in this Conference, can seek no higher goal.

4500 Beechwood Road
College Park, Maryland 20740

PANEL I

"Identifying Our Visually-Limited People"

Morning Session, March 24, 1966

Panel Chairman - CHARLES MARGACH, O.D.,
Director, Low Vision Clinic, College of Optometry,
Pacific University

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PAPERS PRESENTED BY

D. C. MacFarland, Ph.D., Chief, Division of Services to the Blind, Vocational Rehabilitation Administration, U. S. Department of Health, Education and Welfare.

Maya Riviere, D. Phil.(Oxon.), Executive Director, Rehabilitation Codes, Inc., Principal Investigator, Classification of Impairment of Visual Function - NB-05398

Richard Feinberg, Ph.D., Chief, Visual and Auditory Laboratory, Georgetown Clinical Research Institute, Federal Aviation Agency.

RESOURCE PANELISTS

Mrs. Ada Barnett Stough, Assistant to the Commissioner on Aging, Administration on Aging, U. S. Department of Health, Education and Welfare.

Wallace Watkins, Director of Field Services, Goodwill Industries of America.

VOCATIONAL REHABILITATION OF THE BLIND AND PARTIALLY SIGHTED

D. C. MacFarland*

In 1965 more than 13,000 blind and partially sighted individuals were rehabilitated into employment through our State-Federal programs--5,450 of these were within the legal definition of blindness, that is, having better than 20/200 vision with the best correction but still suffering from a serious visual handicap. When we consider the number of persons who have been served through the State-Federal Vocational Rehabilitation Program, trained and placed in employment, and suffering from disabilities in addition to serious visual handicaps but codified under a different category, we can make a conservative estimate that approximately 20,000 of our total number of rehabilitations had severe visual limitations.

It would be virtually impossible to enumerate even a small fraction of the variety of jobs that are now being successfully performed by persons with seriously impaired vision. It has been conservatively estimated that there are some 30,000 different jobs at present being performed by persons within the legal definition of blindness; jobs ranging from kitchen workers to college professors and just about everything in between. There is a direct correlation between the amount of vision and the number of job opportunities. So, you can see that with the increase in partial vision, job opportunities become almost limitless.

At this outset, let me state that we do not believe that 13,000 or 20,000 or 30,000 by any means represent the maximum number of persons who could be and should be receiving services from our State-Federal vocational rehabilitation agencies. We do feel, however, that the extensive prevention work which is now being carried on, particularly in the agencies for the blind and visually handicapped, is contributing mightily in reducing the number of severe cases which reach our rolls each year. For example, a few months ago I had occasion to review the program of one of the smaller Southern States.

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The agency had a prevention of blindness program which had served in 1965 over 5,000 persons. It was operating with a small appropriation and with an increased allotment could easily provide services to almost twice that many. I think it is safe to assume that where individuals receive early medical care, eye surgery, and proper fitting of lenses through our prevention of blindness departments, many never reach the point where rehabilitative services are necessary.

In the foregoing statements, I hope no one will infer that we believe blindness and handicapping conditions are on the decrease, for you and I know that this is not true. Through research and better understanding of the problems, we are able to help many thousands live normal and productive lives, but there is a long way to go. We in rehabilitation are the first to recognize this. We have only to remember the optimistic view that all of us took when the breakthrough on retrolental fibroplasia was announced and it was found that in most instances it could be brought under control. However, during the six or seven-year period when oxygen was fed indiscriminately to children, some 15,000 were blinded and often left with additional disabling conditions. We were very proud of our modern technological advances and rightly so. We discovered over-oxygenation was the cause and that in over 90 percent of the cases this could be prevented. Now, 10 years later, and in spite of great scientific strides which have been made by all professions within our nation, we are again faced with a situation which will, no doubt, leave thousands of children blind and suffering from multi-handicapping conditions. It was brought to my attention a few weeks ago that we now have a wave of rubella sweeping the country which can have serious effect on a newborn child if it is contracted by the mother in her third month of pregnancy. According to the figures quoted to me, there are roughly 30,000 children who have suffered mild to severe damage from this disease alone in the past year. Educators and rehabilitation personnel certainly have their work cut out for them during the next decade.

A great deal of social legislation was passed during the last session of Congress, among which was P.L. 89-333, the most significant piece of legislation in the field of vocational rehabilitation since its inception some 46 years ago. Our new vocational rehabilitation amendments of 1965 will make it possible to provide extensive services to the very severely disabled, services that were heretofore impossible under the old Act, double the number of persons rehabilitated into employment within the next five years, and increase the quality of job opportunities available to our clientele. For example, previously we were able to give only comparatively short periods of diagnostic evaluation.

Under the new Act, any person applying for vocational rehabilitation services can be given a diagnostic evaluation extending over a period of six months. For certain categories of disabilities, such as mental retardation, blindness, deafness, and others designated by the Secretary, the period of diagnostic evaluation can be extended to eighteen months. This will certainly have a profound effect on what we can do for the multi-handicapped individual. For any one suffering from multi-handicapping conditions over a long period of time, it is possible to predict vocational success only if highly professionally-trained personnel have an adequate opportunity to evaluate the individual's potentials and to build up his own enthusiasm and ego so he can accept and profit by training which will lead to the ultimate goal of self-support.

The Act also provides for Federal financial participation in the construction of workshops and rehabilitation facilities which are so necessary for working with the multi-handicapped person. Along with the construction of workshops, Congress has taken into consideration the necessity for long periods of training for some of the more severely disabled clients. These individuals can remain in training up to two years with liberal weekly stipends. The ultimate goal here is not typically for continuous employment in a workshop. For some, this may be their maximum potential. However, for many the workshop will merely be an interim phase of employment, a step in their total rehabilitation leading to gainful employment in outside competitive industry. Shops which need assistance in tooling up for the larger projects which they must undertake are being given support in acquiring qualified personnel and new machinery that will permit them to expand their activities.

There are many other provisions of the Act which are most interesting and will be beneficial to all disabled persons in the country: innovation and expansion grants to extend and improve services in the States; reader services to the blind and interpretive services to the deaf; a commission on architectural barriers; and Federal matching money for supervision and management of the Randolph-Sheppard Vending Stand Program and small business enterprises for the severely disabled. Also, a waiver of "state-wideness" permits certain areas of a state, in need of greater vocational rehabilitation services, to obtain these services through local support which can be matched by the state with Federal funds.

The three most important aspects of the bill are:

1. Substantial increases in funds to the State agencies, almost doubling the money previously available.

2. A much more liberal Federal matching base. We are currently operating on a formula which ranges from 50 to 70 percent Federal matching. Beginning July 1, 1966, the Federal share will be 75 percent of total costs throughout the Nation.

3. The most far reaching provision, perhaps, is the funding of state-wide planning. Under this portion of the Act, each state will be given up to $100,000 per year for a 2-year period to conduct state-wide planning, study the needs of all handicapped persons within the state's jurisdiction, and develop comprehensive programs to deal with these needs.

I would be remiss in discussing our new amendments if I did not mention the action taken to liberalize all phases of our training and research programs. Money for workshops, rehabilitation centers, direct client services, diagnostic evaluation, and all the other phases of the program which have previously been mentioned would not make it possible to do the job unless we, in our state-Federal partnership, carry out our responsibility to the states in providing training programs to help them obtain the professional personnel necessary to do the gigantic task that faces them during the next decade. Professional personnel needed to do the complex rehabilitation job must come from innumerable disciplines, and we are endeavoring to step up our training programs considerably in order to help meet the current desperate shortage.

P. L. 565 gave us the authority to develop training programs and to design and support research conducted by universities and nonprofit organizations. Many of you are familiar with some of the results of these programs. Time does not permit me to give you a thorough account of some of the most important findings. These, however, can be obtained from a review of our research and training programs which have been concisely outlined and summarized in BLINDNESS, the Annual of the American Association of Workers for the Blind, 1964 and 1965. We would recommend that you review these projects. We think you will find them interesting. We are pleased to note that some of the research has been conducted under your auspices with your support and good counsel.

The comprehensive and most satisfying job of rehabilitation is the responsibility of all of us. In fact, it is the summation of the essence of the best in American philosophy. No one agency, public or private, can do the total job or, indeed, a substantial section of it, without the total support of all organizations and groups which have a contribution to make.

We hope you will give us your ideas on what you think should be done and how we can do the job better in the future.

Washington, D. C. 20201

THE ROLE OF REHABILITATION CODES

Maya Riviere*

I hope to relate anything I can contribute to this meeting to more than just impairment of visual function, because our entire work with The Rehabilitation Codes for the last nine years has been to develop a thinking structure, a vocabulary, a set of descriptions, for getting to know the person who has the problem of impairment. This is our bias, rather than primarily to follow the traditional way of identifying and labeling him by his pathology. "M. D." used to mean Doctor of Medicine; now more often I see it used to mean "muscular dystrophy."

Our historical practice has been to examine pathologies, not people, and then to label the people by the pathology. This system is detrimental to the implementation of the services which we are trying to give to people.

If we call a person "blind", we immediately project a stereotype of an inactive person who is sitting useless or shuffling along with a white cane unable to do anything productive, or else working in a limited number of trades, possibly in the offices of some so-called charitable institution. This is a stigmatizing conception expressed by verbalizing out-of-date labels. The fact that the famous Snellen monograph with its numerical measurements was presented to the world in 1862 does not invalidate the measurements. But we must question *the use* to which they have been put, especially in legislation. Having worked with our committee now since 1960, trying to convert the established measurements of vision into an impairment code so as to describe current and available function, I have come to wonder whether it is not time to take a bold leap out of the 19th century.

The concept of our work is to provide language to use in interpreting the facts of a case to the people who are most immediately concerned with it--the person who has the problem, his family, and his immediate contacts. If you present that person to himself by a pathology label, you damage him in his own eyes, and if you present it to his family, friends, and potential employers, school teachers, or whatever contacts he has in the community, by saying that he *is*, for instance, *a* cerebral palsy you are damaging him in their eyes. Nobody even bothers to say that he *is* "cerebral palsied"; he *is a* "cerebral palsy"; or he *is a* cataract.

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*D.Phil.(Oxon.), Executive Director, Rehabilitation Codes, Incorporated

May I ask, when is a "cataract"? I ask this because I haven't been able, in six years of work, to get any definitive statement as to when a person whose vision is beginning to fail because of a developing cataract actually is labeled "a cataract"? Unless we can answer this kind of question, rehabilitation, which is an organized, multi-professional effort, will fail to meet the demands of the situation faced by each patient.

How can we get these people to work together and understand each other when they are all talking foreign languages which they have been taught in their separate disciplines? Each profession has its own professional area of interest and its own professional terminology. In rehabilitation, we meet a rehabilitant only when his problems are such that he can't handle them by himself. I had the fortunate experience some years ago of going through an entire series of patient follow-up studies, categorized by pathology labels. However, I wanted to know what happened to the person who had the problem, regardless of the diagnosis. If you look at most case records, you can't find out. If you look at patients' records, at the urinalysis reports, the temperature charts, etc., you find all the clinical details there, yet you can get no idea what was going on with the person who was in bed. You can't find out what happened to him as the result of the clinical treatment or after he went home, because no one knows how to describe him as a person or the effects of service on his problems. It is no wonder that some people have begun to question what case records are supposed to be good for.

In 1957 such a questioning group in New York City came to a foundation, The Association for the Aid of Crippled Children, which was financing their demonstration in the Borough of Queens. This was a diagnostic and evaluation clinic where a complete examination resulted in a good diagnostic work-up for handicapped children. The reports were then sent to family physicians to work out with the parents some sort of schedule by which the individual child was to be served for some years to come. But when the family physicians began getting these excellent reports, they came back to the clinic saying, "we simply cannot interpret the clinical details in terms of the implications for a given child because every child is different, every family is different. Some of the parents are highly intelligent and cooperative, others are hostile or perhaps illiterate. The circumstances vary every time we meet a new human being".

Well, if you are going to measure people and label them all "legally blind", and not take into account the age of onset, the education, the intelligence, motivations, and maturity of the person, his assets and the resources, the help given by his family and others in his supportive community, you are simply relegating him to a mass statistic.

This offers little to go on living for. People don't go on living in terms of functions they have lost; they go on living in terms of what they can do.

But if you look in most case records, you see no over-all evaluation of the patient as a person, living in his accustomed and appropriate environment at home. What if he is a school child going to school, or what if she is a housewife doing household tasks? All you see is a clinical description of a pathological process or condition.

One result of the inability of family physicians in Queens to interpret the implications of the clinical labels to the family and make plans for a child's services was a one-year project, which over the past nine years has come to be known as The Rehabilitation Codes. Now, if you will accept the term "code" not as being a numerical or statistical arrangement, but rather a code of behavior and an approach to the person who has problems, you will find that The Rehabilitation Codes are a working record structure for the multi-professional people who may be drawn into exchanging information because of the individual's unique and multi-faceted needs. The one year project started as a survey of how professional people across the country were identifying the kinds of problems that arose out of musculo-skeletal and neuro-muscular conditions alone. Now, you see right there, the focus was on the pathological condition, not the person having it. Nine years ago there was still a tremendous emphasis on the problems of mobility, more talk about amputees, or a joint of the little finger, as opposed to the human function of approximation--thumb to fingers of the hand as an extension of the brain--of "seeing" and "hearing" as human functions of learning and communication.

In criss-crossing the country, visiting over 900 programs, I became aware that the case records provided little information of use to the several professions that might be working with the same patient. In a child's record, there was rarely any mention of the parents. In an adult's record, you didn't know if he lived alone, in a rooming house, or had been in a half dozen institutions during the past half dozen years. There was no supportive information to use as a basis for making decisions to give specific service. Also, there was no indication of attempts to measure the quality or effectiveness of the service.

We were already in contact with the Surgeon General of the U. S. Public Health Service, who had set up The National Committee on Vital and Health Statistics at the request of the

World Health Organization in 1949 with a number of subcommittees. The Chairman of the Subcommittee on the Physical Impairment Code was one of the initiators of The Rehabilitation Codes project. Work on the impairment code had started in 1951, and it was to be designed for coding data from the agency giving the services known as rehabilitation. In 1959, the further development of that impairment code was turned over to The Rehabilitation Codes project, after I had been asked to serve on the Surgeon General's subcommittee. Its Chairman continued to serve on the project's governing committee. It was as part of that development that we received grants (1961-68) from the National Institute of Neurological Diseases and Blindness to concentrate work on an impairment code section for communicative disorders. Under this heading we include impairment of voice function, impairment of hearing function, impairment of speech function (which we limited to articulation problems only), and impairment of language function. Please note that we added the word "function" to each because we were not talking about organs alone.

When we began work in 1960 on impairment of visual function we were not concerned with the eye as an organ, but with the binocular "seeing" function. This, of course, reminds me that your president mentioned the fact that you do not examine eyes with drops in them because this immediately creates an abnormal state. You are concerned with evaluating a two-eyed function.

But how does a person see? How does he use the function he has, sometimes in ways which his "measurements" seem to indicate that he cannot? Why do two people with the same measurements manage in completely different ways, or fail to manage, the same activities? We do not know, because as professionals we have confined most of our study to his pathology. Yet, we the professionals are, for the patient, part of the abnormality. Being taken out of his family into an institution or hospital is an abnormality. What is "normal" for him or appropriate for him is to be healthy, at home, working, doing all the things in his neighborhood that he considers "living". This point of view requires re-orientation. We must learn to look at the "patient" as a human being first. We must treat his pathology if possible, but the fundamental task is to help him go on living in his own terms.

The Rehabilitation Codes Program on Impairment of Visual Function in 1960 invited a group of representatives from the major professional, rehabilitation, federal, and other service agencies, to work together. The initial purpose was to secure agreement upon the most useful of the many established systems of measurements and upon standard testing conditions. Granted that with different illumination, contrast, color, and fatigue (the examiner's as well as the patient's), visual function can be found to vary from one examination to the next, and its measurements can vary from one period to the next. This only requires that we create a serial record form on which the measurements at any date or time can be set down in consistent terms to provide a comparison and establish the trend in the changes. We are now in 1966 at the point of agreement on the measurements, but must take the next step to specify which measurements mean absence, measureable limitation, and those (to date) unmeasureable dysfunctions for a consistent section on impairment of visual function to be included in the Surgeon General's Impairment Code.

We are currently involved in field tests of the measurements to see how they relate to what a person so measured can or cannot do. We expect to examine some 50 people who are legally blind, newly blinded, unimpaired so far as we know, or known to have various visual impairments. A detailed case history on each will record what he can do, what he cannot do, and what kind of activity he has problems with. In June (1966) we are holding a working conference to which a group of experienced people will be invited. We shall report on the field test results and ask them to help us formulate the implied impairment, from the point of view of the human being's human function of "seeing".

The draft of the impairment code must then be field-tested to see how useful the single code entry descriptions are in following the function of a person over a period of time. The instructions for using the Measurements Code, the instrumentation, and the testing conditions and procedures must also be further developed or adapted so that across the whole country consistent methods can in the future begin to produce consistent information leading to improved services. The information will be more easily exchanged when it is couched in commonly used and commonly understood terms. The resultant accumulated data which will be directly encoded for computer analysis may lead to useful research for prevention of impairment, as well as more effective service for those already impaired.

We may even find out how people "see" what they do see. We may learn how to teach people better use of the visual function they have.

1860 Broadway
New York, New York 10023

INDUSTRY VIEWS VISUAL IMPAIRMENT

Richard Feinberg*

This March was the 23rd anniversary of the eye care program at Sperry Gyroscope Company, located in Great Neck, Long Island. I was instrumental in establishing this program and was Supervisor of the Eye Service in its early years during World War II. It still continues to serve Sperry employees. It is a shock to realize that 23 years have gone by so rapidly.

When the Sperry program was initiated, it included the talents of ophthalmologists, optometrists, psychologists, medical personnel, nurses, safety engineers, and lay technicians. It cared for many thousands of people. It still does--screening them for employment, providing them with safety eye wear, and providing them with special eye wear where needed. It is concerned with environmental conditions and with job design. Dr. Herman Sager has been the chief of that program since I left there over 20 years ago.

In the war years we employed a number of employees with very poor vision. Properly placed, they performed their tasks very satisfactorily. It is my understanding that the company does not now employ persons with 20/200 acuity, or less, and that the totally blind have not been employed by the company in many years. This is unfortunate. To my knowledge there are few industries that employ persons handicapped with limited vision.

It must be remembered that it is not the large companies that employ the majority of the working population in this country. Ninety-nine percent of all plants, employing 88 percent of the labor force, can be classified as small establishments hiring under 500 employees. Here is where there is the greatest need for modern simplified methods of vision screening and the techniques of coping with the problems of visual safety and visual efficiency requirements. Mark Twain once used the term "petrified truth". If, in these 23 years, I have acquired any "petrified truths", one would be that if an employee needs glasses, someone is already paying for them--the employer by decreased production, the consumer by inferior product, or society at large by medical and social costs out of its own pay envelope. All this is without anyone's knowledge, of course. It would be more economical to get those glasses on him.

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Another situation becomes more significant to our society as the years roll by. We have about 18 million men and women in the United States aged 65 and older, and this group is increasing at the rate of over 400,000 per year. Concern with the visually handicapped within this group becomes ever greater. Geriatrics takes on new meaning for those in the field of visual care. Investigations of methods to keep older age employees operating at peak efficiency frequently result in the recommendations for more and better eye care. The contributions of the ophthalmic industry and the ophthalmic professions have never been more important.

Those of you who are professionally concerned with the detection, care, and rehabilitation of those afflicted with subnormal vision, are ever more frequently confronted with the problems of the blinding diseases. Diabetic retinopathy, for example, now accounts for 16 percent of all blindness. Glaucoma brings about 3500 new cases of blindness in our country's population every year; and there are now, according to some estimates, 30,000 people in the United States completely blind, and another 150,000 blind in one eye,as a result of glaucoma.

These problems will never be resolved by any one group of specialists. They are problems that can be confronted only by interprofessional action. I should like to believe that the professions are now working together on an interdisciplinary level. A meeting such as this augurs well for the future.

Someone might conjecture that people with subnormal vision do not drive automobiles. Unfortunately, they do. The activities of the visually handicapped are carried over into everyday living, including automobile driving. In most states auto licenses can be renewed without vision retesting. Some people who can barely see, drive cars. We need tighter laws in this respect.

Those who would be concerned with the visually-limited need acquisition of knowledge in developmental and pediatric vision, eye protection, the use of prosthetics in subnormal vision, the training of those so limited, and even the care of the blind. Emphasis has to be on team endeavor. Those who can make a meaningful contribution to the assistance of the visually-limited must be encouraged to participate--a kind of voluntary conscription.

The medical director of a major industrial corporation wrote me that there still are hurdles regarding insurance when hiring employees with limited vision. The insurance problem needs further review. He indicated that many people who have limited vision are employable and in no way handicapped when placed properly in industrial work. He, for example, makes certain that no person with high myopia does any heavy lifting. This is a precaution against retinal detachment. His final comment was that it was up to "company policy" and the recommendations of the medical director as to whether visually-limited people would be hired. Obviously, this presents another educational task.

The truly enlightened employer will see to it that his employees have periodic vision rechecks. This should include ophthalmoscopy, visual fields and tonometric measurements. It should include careful evaluation of the employee's vision and the tasks upon which he is called to perform. It should include keeping careful records.

No one has yet satisfactorily met the problem of how to bring such services to the small companies and places of employment. Employers in these establishments regard such a program as too expensive and too comprehensive for their needs. Most frequently, I am afraid, they never even think about it. Perhaps this problem can best be handled through community sponsored eye care programs. This is an extensive problem that needs elaboration. Larger industries have supplied us with such data as these: 50 percent of those employed lack optimum vision for what they are doing. Over 60 percent of all workers who are rated below average in efficiency have less than optimum vision. Twenty percent of the employed make 80 percent of the first-aid visits. The enlightened industries today recognize these facts and are doing what they can, beginning in the pre-employment testing, the employment medical examination, and finally in the periodic re-examination. Some day, the smaller establishments will find the means to have these constructive measures operative for their personnel.

In closing, I should like to give special mention to such persons as Mr. Jack O'Neill of the National Society for the Prevention of Blindness for his lifelong work in the promotion of eye safety, and to the committees of the American Optometric Association and the American Medical Association which supported and initiated vision safety measures in industry.

Washington 25, D. C.

WORKSHOP DISCUSSION SESSION

Panel 1

MRS. ADA BARNETT STOUGH*: I come from the Administration on Aging, and we are interested in one segment of the population included by one speaker of this morning under the label "the forgotten people". Dr. Feinberg mentioned the problem of encouraging older people to seek the sight necessary for employment. A far greater problem lies in the large segment of older people who have retired. We believe that one of the most poignant needs of that older segment of the population is the ability to keep a zest for living. They have retired after years of making a living without having built inner resources that are necessary to keep on wanting to live; and if you add that handicap to that visual impairment, you get a mental and a physical situation that makes for greater and greater loneliness and more social isolation.

One of the objectives in the whole field of aging is to make services available to these people not only housing services, health services, income services, recreation services, and so on, but also the great service done by the people in your profession to reach these people, and after reaching them, to provide the kind of devices or glasses or whatever it takes to help these people to visual function and to less and less impaired respect; in other words, to feel competent in matters of vision. In the new programs for the aging, that are going to be (we hope) increased throughout the United States, we hope to have more and more information at senior centers so older people can be directed to the kinds of services or to the people who will be able to give those services. This is why we certainly would plea for the co-operation of optometric associations throughout the nation.

I think the big challenge here is to help these people to operate and to function within society as it is today. In other words, they should be able to read standard print and to operate as normally as they can. For those instances where this is not possible, we would like to encourage the large print books which you have assisted in developing, and we would like to encourage large print hymn books and wider use of those visual devices that will help people who are not rehabilitated to function better.

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It is unfortunate that the new techniques to improve and increase the vision of the elderly are so little known and used by the public. I would suggest that there are several reasons:

(1) The interests of the optometrists themselves have not been sufficiently aroused in serving the elderly. They have not yet caught a glimpse of the excitement which comes when newer devices bring to old people a renewed zest for living.

(2) Community committees and councils on aging have not sought the support of optometrists and have not included them in community planning. Too few people know what you optometrists have to offer and have not sought out your services.

I would make a plea for active committees on aid to the visually handicapped in your local chapters. I would be sure that they include a strong emphasis on older people. I would hope that you could do some real promotion on the services your profession can render.

QUESTION TO MRS. STOUGH: What about the great costs of care for aging persons, falling on their families? How can these families or these people be assisted, financially?

MRS. STOUGH: Well, this is a $64,000 question. We know that under the medical assistance program for the indigent or the medically indigent, some states have recently made a Social Security Amendment to make available more financial assistance through the state. Some states do include correction of vision as a part of this medical payment, but this is not true in all of the states. That is the number one aspect of it. The second is, I understand, that some labor unions and some of the organizations for senior citizens are going to try for an amendment to the Medicare Bill which will allow expenses for devices such as glasses, hearing aids and so forth, to be covered under the voluntary medical insurance plan.

QUESTION DIRECTED TO MR. WALLACE WATKINS*: What services are available to help sheltered workshop employees move into employment by regular industry?

MR. WATKINS: Basically, sheltered workshops of all varieties, governmental or private, attempt to provide vocational rehabilitation services, which, initially, attempt to determine what functions or skills does the man presently have. This is done largely through testing, either on-the-job testing or psychological testing, or so on; but this is merely a functional evaluation. Then the rehabilitant must go through several steps or different programs or whatever you call it, aimed at developing work readiness.

We must recognize that we have many people--partially sighted people, as well as those with other disabilities--who simply do not know the rudiments of what work is. Does an employer expect you to work eight hours for eight hours pay, or do you get to go for "coffee" every time you feel a little thirst? The development of work skills and work habits is really one of the most important services provided by Workshop, and it is in this area that we get into many of the special services--abnormal vision services and medical services--while we remain concerned with treating, as Dr. McCrary says, the whole man.

Now this is where we get into all sorts of services to prepare the man for work. Our workshops can do some specific job training, although we don't do a great deal of it. I think that phase has been overplayed a bit, but there are certain work skills which are taught in the workshop.

Services of several different varieties should also be mentioned. One of them is simply long term employment--some people never move out of a workshop--and this is a valid service for them. Another main area of service is transitional employment, which is basically a short period of employment--many work from 3 to 6 months, a year, or maybe longer--with the objective being always to move them out. Then we have placement services--attempting to place people in regular, competitive, industry or business. Placement is a major function. In the implementation of these services, incidentally, workshops of this nature traditionally use all of the services of the Vocational Rehabilitation Administration in all of the 50 states. It's a joint venture.

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QUESTIONS DIRECTED TO DR. MACFARLAND: Q. What services are being rendered in rural areas?

A. Services are provided uniformly throughout the State. In rural areas where professional personnel are not available, clients are transported at the expense of the agency to urban areas where they can have the benefit of specialists' examinations and follow-up treatment or surgery.

Q. Is there a summary of the "new VRA law" available to determine services available and how to obtain them?

A. A summary of the "new VRA law" is available and may be obtained by writing to Mr. Russell J.N. Dean, Assistant Commissioner, Legislation and Public Affairs, Vocational Rehabilitation Administration, Washington, D. C. 20201.

Q. Often V.R. Chiefs are not properly informed of optometry's training and knowledge in the field of low vision care. Will Vocational Rehabilitation Administration plans include regional conferences to better educate and up-date the thinking of State Rehabilitation personnel?

A. As I indicated in my formal remarks, State agency directors serving the blind and visually handicapped are quite knowledgeable with respect to ophthalmological and optometric services, e.g., optometrists are involved in our low vision aids clinics and work closely with the agencies that have prevention of blindness departments. Also, we are expecting to convene a national seminar on the operation of low vision clinics which should add emphasis on this point of optometric knowledge and concern.

Q. What is the current status of the Demonstration Grant Project for Optical Aids Clinics?

A. At present we have 23 optical aids clinics. Prior to the 1965 Vocational Rehabilitation Act Amendments, these were sponsored by our Research and Demonstration Grants Division. Under the new provisions, the program will be expanded to include at least 40 clinics but will be supported through innovation or expansion grants under the auspices of the State Vocational Rehabilitation Agencies.

Q. How can we cross state lines in getting services when it is faster and cheaper to obtain them in a neighboring state than to go greater distances within a state?

A. In VRA programs there is nothing which restricts a state agency from sending a client across state lines to obtain services which either aren't available in the original state or services which can be provided more economically for any of a number of reasons.

QUESTION DIRECTED TO DR. RIVIERE: In your Rehabilitation Codes project, who will measure "environmental factors" and equate measurements by O.D.s or M.D.s with the measurements by psychologists and by social workers on these same factors?

DR. RIVIERE: Before we can begin to deal with this question, we must concern ourselves with two prior questions which are as yet unanswered. How are we going to get measurements of "environmental distractions"? We are convinced this is a problem of central importance, yet it is also one that varies widely from person to person and is only slightly related to his specific "disability." Also, we have the disturbing question that our present tests largely fail to answer: "How is this man going to perform when he leaves our office and goes into the street, or to his job?" Before we can worry about any problems of "equating", we must first have at least one test that seems to have some validity. In most cases we lack even one such test right now.

QUESTION DIRECTED TO DR. FEINBERG: How can employers be educated to the fact that visually-limited individuals can qualify for wider employment than they now enjoy?

DR. FEINBERG: This is a very complex problem. I think a point that's crucial here involves the insurance companies. Insurance companies which carry the workmen's compensation risks seemingly cannot be educated to the fact that people who are handicapped can be safely employed. This also means that there has to be some governmental regulation in terms of second injury clauses. It also means that American management associations have to be indoctrinated with the notion that they can hire handicapped people. It also means that the American Medical Association and the Industrial Physicians Group, which run the medical department, have to be further educated. It also means that the American Association of Safety Engineers has to be sufficiently convinced that this is a worthwhile project. In short, I think there is a place of leadership here for some governmental industry significantly important to influence the various other agencies involved.

UNIDENTIFIED COMMENT FROM THE FLOOR: I must defend the employer just a bit. All of these things which Dr. Feinberg has said are all geared to get the employer to hire a man. There are, however, one or two other things involved here: one is that for many industries the union controls which kind of jobs are used as entrance jobs. For instance, certain assembly jobs in many factories are reserved for women. These often happen to also be very good for blind and partially-sighted people. Yet, as far as employing visually-limited persons is concerned, these jobs are simply eliminated; not by management, but by union contract. So this is a factor I think you must recognize. Unions are a partner in this employment.

Secondly, there is a very practical problem in that in most American plants today, flexibility is crucial, and most employees must work on three different jobs instead of just one. Thus, flexibility in our training and prescriptions is essential. You must provide for patient flexibility even if it requires three pairs of glasses or their equivalent. Flexibility is simply a fact of industrial life with which both you and the employer must live.

UNIDENTIFIED COMMENT FROM THE FLOOR: Many of you have been addressing yourselves to problems of semantics and wishful thinking, but while you are waiting for your "functional definitions" and the achievement of "legislative goals", what are we going to do right today?

A statement I would make is that there are a great many services available today, at least in the larger communities, which are now being improperly or inefficiently used by optometrists, or even overlooked entirely. Each optometrist should consult, in his own community, the community welfare council or an agency for the blind or a federal agency. I suggest the local community welfare council because it is probably the most universally available organization in any given town of any size. I would make the point that optometrists in the local optometric associations and the auxiliaries have not been as active in the total community planning of services and needs for the partially sighted as they could and should have been.

I also point to figures stated by Dr. McCrary this morning that you provide 75 percent of the visual needs of our nation. I think an appropriate question is: Do you also provide 75 percent of the leadership which is necessary to see that all people are receiving the necessary services that they need? Another aspect of this thing has to do with obtaining services in smaller communities. Maybe we are doing all right in Houston, Texas, but what about Chillicothe, Ohio and all these other little places? Optometry has to meet the full needs of people with visual problems, regardless of the size of the community in which the patient lives.

These are questions that I think you have to work on, and I think leadership has to be exercised by everybody, including the American Optometric Association, in trying to resolve some of these problems.

FURTHER COMMENT FROM THE FLOOR: I know that in many local communities today there is a growing need to develop a register of all the various services and institutions in the area categorized by types of help or types of agencies.

Here is one area needing leadership from the citizens of the community. If your area has such a directory, is it up-to-date? If there is not a directory, get busy and instigate one!

MODERATOR: A basic answer that I would give to the question of our supplying 75 percent of the leadership in this area is this conference itself. This conference is one of the basic steps toward a more adequate assumption of optometry's public responsibility in this direction. We're not going to be able personally to provide many of these needed services, of course; we all recognize that many of the services of which we are talking are services that will be provided by professionally-trained people in the areas in question. But we do feel that we need to know much more about these services so that we may act as more adequate guides and as a source of advice and counsel as we bring out patients toward larger economic and social integration.

QUESTION DIRECTED TO C. EDWARD WILLIAMS*: How can we make available to the older citizens of our communities, the advantages of our present successful techniques which are designed to allow them to work in their normal environments?

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*O.D., Member Committee on Aid to the Partially-Sighted, American Optometric Association, 612 Empire Building, Denver, Colorado 80202

DR. WILLIAMS: We were talking about lines of visual aid programs and about the intrinsic value they have; and it occurred to me that not all of us realize that our most effective procedures involve using not only more visual aids; but also rehabilitation techniques designed to allow aging persons to operate without change in the environment to which they have been so long accustomed. We want them still to be able to shop, to sign a check, to fill out a form, to dial a phone, or read their mail without having to ask their neighbor to do so, to read a book of normal-sized print and so forth--very much can be done in these regions; thus, you give an aging person a helpmate that they may have been lacking for quite a while.

When a person has to ask everyone else or their surrounding friends to do these things for them, they often begin to lose their idea of wanting to continue living. Optometric services can provide a long step of return from this No-Man's Land.

COMMENT BY ERNEST GAYNES*: Our electric power company has an extremely favorable rate which they would prefer not to have investigated; and as a result, they offer a great deal of service. They are very amenable to public service activity. They will modify appliances wherever possible for the visually handicapped upon either a call from the social worker or upon recommendation from somebody involved in a project. As a result, we can always offer an older person with a homemaker bent, self-help, because her electric frying pan or range--all these things can be either coated, marked or modified so they can be used.

You'll find that the telephone company can also be enlisted in help. For instance, there is the new phone which is being used--at least, in our area--which involves push-button dialing, which is infinitely much simpler to use than the circular dial. Their introduction of this is on a very regional basis at the moment, yet they will replace an instrument upon request for a visually handicapped person. We have found that our natural gas company, which offers home heating and range equipment will also modify their appliances. It's a case of finding community sources often to help, as frequently this kind of modification, which is the most meaningful as far as the individual is concerned, and I would suggest that your local public utilities are an excellent source of help in procuring some of these very things.

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WHAT THE
ADULT HEALTH PROTECTION ACT
WILL MEAN TO OPTOMETRY*

Honorable John E. Fogarty**

Thank you for your invitation to participate in the American Optometric Association's Conference on Aid to the Visually Limited. While I would have been happy to attend this luncheon under any circumstances, I must admit that your invitation did reach me at the proper psychological moment. I was just putting some finishing touches on a bill I was about to introduce on the House floor to be known as the Adult Health Protection Act of 1966.

The bill calls for the establishment of adult health protection centers at which persons over 50 would be given free a battery of tests designed to detect abnormalities and diseases at an early stage. And, included among the diseases or conditions to be tested under this program is vision impairment.

It is obvious that no age group in our Nation has a greater need for vision care than the millions who have passed their 50th year. And it takes little analysis, by and large, to determine that a major proportion of this group is not adequately prepared financially to translate this urgent need into realization.

While no one can predict accurately the appropriate interval at which our older people should have an eye examination, I believe your association recommends that a complete eye examination and visual analysis should be seriously considered at least every other year. It is true that those who wear glasses may not need a change of lenses that often, but examination at regular intervals is definitely essential. The screening examination for early signs of visual impairment that is provided for in my bill will act as a forerunner to referral to professional practitioners for those who require such services.

When I talk to a gathering of this nature--a group of professionals--I always do a little homework beforehand to acquaint myself with the aims and objectives of the group, and to reinforce my knowledge of the profession, its practices, its impact on the Nation's health, and what it is doing or might do to further the health goals of the Nation.

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*Address delivered at the Conference Luncheon, The Mayflower Hotel, Washington, D.C., Thursday, March 24, 1966

**Representative from Rhode Island, U.S. House of Representatives, 1235 Longworth House Office Building, Washington, D.C.

But I should note that, in this instance, my homework was a matter of reacquaintance--a refresher course, if you will. I had delved deeply and at great length into the field of optometry in the past several years when we were working to include schools of optometry and optometric students in the Health Professions Educational Assistance Act and its amendments.

I believe you and I were equally gratified when we won our case, and schools of optometry became eligible for construction grants and grants to improve educational program quality; we were equally gratified when students at these schools became qualified for benefits from the student assistance features of the legislation--student loans and Federal support for scholarships.

To return to my earlier statement: during my "homework" period, I came again to a little volume edited by Drs. Monroe Hirsch and Ralph Wick, titled "Vision of the Aging Patient--An Optometric Symposium."

While I was quite aware of your profession's interest in the aging and aged, I had not realized how far that interest reached back into time. Dr. Henry Hofstetter's introduction, for example, reminded me that "Optometry, perhaps longer than any other professional group, has had specific concern with aging," and traced that concern back for some 500 years. And, while Dr. Hofstetter cited the age of 40 as a clinical point of demarcation between young and old, I was especially interested when he wrote that "* * * from a purely physiological point of view, 50 to 55 years of age would have been a more logical point of demarcation."

This certainly added validity to my choice of the half-century mark as the age at which our adult population would become eligible for the services of our proposed adult health protection centers.

And Dr. Vincent Ellerbock, writing about partial vision: "It now is apparent that both cataract and glaucoma are subject to detection and care and in a great majority of cases need not produce any serious loss of vision." This statement certainly fortified my belief that detection--followed by the application of preventive measures--spelled out the most practicable way to assure the continued health and well-being of our aging generations.

My reading produced one other plum. The value of proper eye care for our older people has rarely been expressed more succinctly than by Dr. Ethel Percy Andrus, then president of the American Association of Retired Persons. In the foreword to Drs. Hirsch and Wick's symposium, Dr. Andrus noted in part "the increased provision for eye care and the early detection and control of eye disabilities is one of the important trends in the current nationwide movement for the welfare of the aged. The human need for protecting the eyesight of the elderly cannot be magnified. Preserving for them their vision opens for them opportunities for more abundant living, and so assures for them wider dimensions of health and enjoyment."

I believe you can understand more readily now why I am pleased to appear here today, and most grateful for the invitation to join you.

I note that this conference will deal with the identification of visually limited individuals--how to serve not only their visual needs, but also their social and economic needs; and how to effect their proper care. This overall concept, as it relates to obtaining treatment for the less affluent of our aging citizens, moves hand in hand with that of my bill.

In 1956, when I recommended a White House Conference on Aging, I said that "aging touches or pervades most aspects of American life today; urban and rural living; wages, salaries, pensions, insurance, and other affairs of our economy; biological and psychological fields; and civic and political matters."

In 1957, shortly after its establishment, the special staff on aging of the Department of Health, Education, and Welfare, stated the problem in a slightly different manner: "We must help older people * * * to employ better the skills, the experiences, and the resources they have gained over a lifetime. To the extent we succeed in meeting this challenge, we shall have built a tremendous reservoir of strength for the Nation. Otherwise, the growing number of older people * * * will become an overwhelming social, medical, and financial burden on their children, the community, and the total economy."

The progress that has been made in the intervening years is a source of pleasure for all of us. Many opportunities have been afforded our older citizens for increasing their self-sufficiency and continuing their usefulness to the community. And yet, the task of deriving the utmost from their full potential remains a substantial one.

Admittedly, we are doing a great deal to make it possible for more of our elderly people to live healthier and more productive lives. But much more remains to be done in this area, and it is here that the impact of the Adult Health

Protection Act will be felt. Only by early identification and subsequent control of disease and prevention of illness and disability can we begin to keep our adult population in a state of good health that will enable them to sustain a potential we will find it worthwhile to tap.

The bill I have introduced is an outgrowth of an idea I expressed last fall when I helped dedicate Cranston, R.I.'s first low-rent housing development for the elderly. I stressed at that time the urgent need for long-term comprehensive care for the elderly--an entire program of services to provide all the needs of life. I called that concept living care.

At about the same time, on the Senate floor, Senator Harrison Williams, of New Jersey, reminded his listeners that the dramatically increasing numbers of our aged and aging population presented a "growing problem with special significance for chronic diseases." His program was called preventicare.

Acting independently, but with the same long-term goals in mind, Senator Williams and I had come to the same conclusion.

What we are proposing--I know that most of you are aware that Senator Williams has introduced a similar bill in the Senate--is that it be the sense of the Congress that "the Federal Government has a duty to assist the adult population of the United States, particularly the aged and the aging, in protecting, maintaining, and improving their health."

Specifically our aim is to launch a genuine nationwide preventive medicine campaign in the form of a $60 million, 3-year demonstration program, including training and research, in health protection centers. Having fought--and to great extent won--the battle against infectious diseases, we consider it most logical to combat the chronic diseases with the same kind of aggressive, thoroughgoing and determined approach. Experience has shown us that complete prevention can be attained in many instances and that disability, crippling, and premature death can be delayed by preventive methods and techniques.

Through grants, we would encourage and assist the planning, establishment, and operation of 5 regional and 20 community adult health protection centers; provide assistance for training the essential manpower that would ultimately be involved; and assist in conducting research related to the centers and their operation.

The health protection centers would make available to any person over 50, on a voluntary basis, a series of basic tests that would detect abnormalities in the cardiovascular, respiratory, gastrointestinal, genitourinary, and musculoskeletal systems, as well as defects in metabolism and in the organs of special sense.

The tests would be administered by qualified technicians, nurses, and other medical specialists, using automated equipment capable of providing rapid and reliable results. These results, available within a matter of a few hours, would be referred to the individual's private physician or, where the individual had none or was indigent, would be referred as determined by local practitioners.

I want to repeat that in every case the results of screening tests would be forwarded to a practicing physician. I am emphasizing this feature of the program because some people who have only scanned our proposal have the misconception that the centers are to be diagnostic and treatment centers.

This is not the case. Where treatment is indicated, the function of the center staff will be to assure that the patient is properly referred and brought under a doctor's care. And in those cases where the screening tests reveal no sign of incipient disease, test results will still be forwarded to a physician, since they will provide a firm basis for any future complete physical examination, whenever accomplished.

In passing, a word or two about the application of automation to health checkups. Probably the best-known program is that of the Kaiser-Permanente Group, operating in the Oakland, Calif., area, which has supplied much concrete evidence of the value and practicability of automated preliminary health tests. For those of you who might like more specifics on automation in a health program setting, I refer you to the published writings of Dr. Morris F. Collen, director of medical methods research for Permanente.

My correspondence tells me that automated multitest screening programs are presently in operation on a limited basis in Michigan, Indiana, and here in the District of Columbia, generating great interest because of their ability to discover ailments in apparently healthy people before any symptoms make their appearance. In a dozen other instances, States, universities, and individual communities are contemplating use of a similar technique.

An audience of this nature has humanitarian as well as a professional interest in people and their good health. Because of this double-barreled interest, I emphasize to you the importance of this proposed program. We have made great progress in advancing the cause of our older citizens, but our entire investment to date--although it represents many, many millions of dollars--although it has broken new paths and added new dimensions--will lose a great deal of its meaning if we do not do more to help our aging population to anticipate their golden years. We must do everything within our power to make certain that more and more of our citizens reach that period of their lives with a clean bill of health.

I sincerely believe that the program we are recommending represents the surest and most practical way to accomplish this. Certainly more aging people stand a chance to do so if their medical histories reflect concerted preventive action against those disabilities that cause so many of them misery and untold suffering today.

There is still another preventive angle that is implicit in this program, and that is a human and psychological one. Properly utilized, this program will prevent an incalculable number of our aging citizens from entering into the isolated and secluded type of existence that has been their portion so often in the past. On the contrary, by bolstering their sense of well-being, it will help them to add their renewed vigor and experience to a host of community projects from which their personal dividend will be better and more substantial lives.

A New York Herald Tribune editorial of a few weeks back stated that "only now is it widely realized that the health of an individual or a family is not simply a private affair, that preventable illnesses and death due to ignorance and neglect are a waste of the Nation's most precious resource--its people." I could not have asked for a better articulation of the basis of my concern for our aging people. And I am heartened to find that many of our leading physicians have expressed their agreement with our plan wholly in principle, and almost without exception in design.

With medicare, we began to apply the Golden Rule to the golden years. Our proposed program--The Adult Health Protection Act of 1966--conceives of the years after 50 as the time to make certain that more of our citizens will enter the golden years in full possession of their faculties, physical and mental. We consider it a logical extension of medicare.

I am encouraged by the support that our proposal has gained thus far. I have great respect for those who may oppose it in good conscience. To those who cry "creeping socialism," I can only say that every man is due his personal prejudices. In this regard, I believe all of you know that my prejudices are in accord with those of President Johnson, whose health proposals this year set as the Nation's goal: "Good health for every citizen to the limits of our country's capacity to provide it."

I have no doubts as to this country's capacity to provide the health opportunities that the Adult Health Protection Act contemplates. The need for the program is urgent; the technology for the program is at hand. I am confident that the Congress--with the expressed support of professional organizations such as yours--will make the right choice.

1235 Longworth House Office Building
Washington, D. C.

PANEL 2

"Serving the Visual Needs
of our Visually-Limited People"

Afternoon Session, March 24, 1966

Panel Chairman - C. EDWARD WILLIAMS, O. D.,
Member, Committee on Aid to the Partially-Sighted,
AMERICAN OPTOMETRIC ASSOCIATION

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PAPERS PRESENTED BY

Alfred A. Rosenbloom, O.D., Dean, Illinois College of Optometry.

Ralph Gunkel, O.D., National Institute of Neurological Diseases and Blindness, National Institutes of Health, Public Health Service, U.S. Department of Health, Education and Welfare.

Louise L. Sloan, Ph.D., Laboratory of Physiological Optics, Wilmer Institute, Johns Hopkins University.

Douglas P. Wisman, O.D., Committee on Aid to the Partially-Sighted, American Optometric Association.

RESOURCE PANELISTS

Earl T. Klein, Acting Director, Office of Evaluation and Reports, Office of Manpower, Automation and Training, U.S. Department of Labor.

Eugene F. Murphy, Ph.D., Chief, Research and Development Division, Prosthetic and Sensory Aids Service, Department of Medicine and Surgery, Veterans Administration.

SUBNORMAL VISION CARE: AN ANALYSIS OF CLINIC PATIENTS*

Alfred A. Rosenbloom, Jr., O.D.**

A point of view central to this Conference on Aid to the Visually Limited is our concept that the visually limited person is first and foremost an individual. Like any other person, he possesses such qualities of individuality as character, temperament, potentiality, education and environment.

Since 1955 this speaker has been privileged to serve as optometric consultant to the Chicago Lighthouse for the Blind. The Lighthouse program exemplifies the professional team approach offering a wide range of professional services--social, medical, psychological and optometric. The program was designed to meet the following objectives:

1. To help visually handicapped persons achieve maximum use of residual vision through application of new knowledge, techniques and methods regarding low vision aids.

2. To increase the employability of visually handicapped persons by helping them function as effectively as possible.

3. To stimulate cooperation among specialists in allied fields and to coordinate state and community services.

To date over 1,000 patients have been examined in this program. With rare exceptions each patient was legally blind. As a necessary prerequisite to accepting each patient for the subnormal vision examination, a medical report form, including a thorough diagnosis of the ocular pathology, was completed by the referring or attending ophthalmologist. Upon completion of the subnormal vision examination, all findings and recommended corrective procedures were shared with the attending ophthalmologist. Even a brief report of what we found in studying these 1,000 patients offers valuable insights.

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*Summary of a paper to be published in the American Journal of Optometry

**Dean, Illinois College of Optometry

We divided our study into five categories: (1) a review of the success achieved; (2) the kinds of ocular pathology diagnosed; (3) the types of low vision aids prescribed; (4) a brief report on psychiatric evaluation of selected patients; and (5) a follow-up summary of results achieved.

Degree of Success Achieved

In analyzing the degree of success achieved, we found that about 75 percent of the first 1,000 patients studied could benefit from the prescription of low vision aids; 7 percent of these, however, did not accept the visual correction. Our study revealed, also, that a significant number of this 7 percent had suffered a blinding incident or disease. No low vision aid was indicated or prescribed in about 25 percent of the cases.

We found that 38 percent of the patients were diagnosed as congenitally blind and 62 percent adventitiously blind. Although congenitally blind individuals were fewer in number, for the most part they had greater success with low vision aids. The greater incidence of success may be the result of the fact that congenital conditions resulting in subnormal vision produce a greater degree of residual vision and, consequently, greater potential for success. The markedly smaller number of unsuccessful patients in the congenitally blind category suggests that educational and motivational factors are important considerations.

The number and age range of patients and the percentage of success and failure within each category was also studied. The percentage of success was greater in the age range from 11 to 60. Almost 40 percent of our patients were 60 years of age or over. Notwithstanding the debilitating effects that may occur with age, the number of patients who benefited in the age range of 61 to 81 was more than twice the number of unsuccessful cases.

In evaluating the results with this older group it must be remembered that their needs, adaptive capabilities, interests and physical problems in some cases produced limitations which were distinct from their visual problems.

Approximately 20 percent of the patients were 21 years of age or under. Where sufficient residual vision was present, patients in this age group enjoyed an extremely high degree of success. Probably because of their great visual needs, high level of motivation and adaptive capacities, this student age group should be among the best candidates for visual rehabilitation.

Success in using subnormal vision aids was also assessed in relation to the span of time when the patient sustained the visual loss. We found that patients who have been legally blind for ten to fourteen years prior to subnormal vision examination were the most successful individuals with low vision aids. Over 68 percent of the patients who had been blind less than two years were also recorded as successful patients. This finding is in sharp contrast to the frequently heard assumption that newly blinded individuals are frequently unprepared, emotionally, to accept marked visual impairment or to attempt the use of a visual aid that only partially restores visual function.

The relationship between the patient's educational background and his performance with low vision aids was studied in a group of 155 patients randomly selected from a total population. As expected, those patients who had the greatest amount of education achieved the highest percentage of success.

An analysis was made of the effect of occupational status upon the patient's performance with the low vision aid. Those who were employed or in student status demonstrated a higher percentage of success than patients in other categories. Since the population included a higher percentage of elderly persons, it was necessary to distinguish between retired and unemployed persons. In both of these categories approximately two-thirds benefited.

Kinds of Ocular Pathology

Examination of the ocular pathology responsible for the visual loss revealed that choroidal and/or retinal changes occurred with the greatest frequency in over 50 percent of the patients while conditions of the cornea were least frequent (about 5 percent). Approximately one-sixth of the population incurred diseased conditions of the optic nerve while another 25 percent manifested congenital anomalies, congenital or acquired amblyopia and miscellaneous ocular pathologic conditions.

Within the largest pathological type--choroidal and/or retinal pathology--approximately 75 percent of the patients, along with about 60 percent of the patients whose diagnosis is primary optic nerve atrophy, could be corrected to 8 point type (equivalent in size to newsprint) or better with the appropriate visual aid. The fact that greater success was achieved in such cases seems primarily a function of the amount of residual vision, rather than the particular type of ocular pathology. Patients with central vision loss and normal or near normal visual fields were more amenable to successful correction with low vision aids. When we plotted central and peripheral visual fields of some 100 unselected patients on the Lloyd's stereo-campimeter, we found no significant relationship between the successful prescription of a subnormal vision aid and the nature and extent of the central or the peripheral fields of vision.

The Type of Subnormal Vision Aid Prescribed

When considering all patients prescribed successfully with low vision aids, we find that over 65 percent were prescribed either a high plus reading addition or a microscopic lens providing 5X to 12X magnification. The near vision of over 80 percent of these patients was improved by the appropriate correction to the point where magazines and newsprint could be read. About 10 percent of the aids prescribed involved the use of fixed-focus hand magnifiers. Selection of this aid was often dictated by senile changes, occupational preferences or use as an interim or auxiliary correction.

The site of the visual impairment was a significant factor in determining the type of visual aid prescribed. Contact lenses proved particularly valuable in (1) cases involving corneal irregularity, (2) cases where improved visual function was possible with contact lenses as compared to the spectacle lens counterpart (e.g., aphakia, high myopia, high hyperopia) and (3) as a limiting aperture in cases involving pupillary irregularities and media involvements. Few patients could successfully adapt to a contact lens-telescopic system, a procedure that presents a number of visual problems and requires the greatest amount of professional judgment, insight and clinical skill.

Telescopic lenses, often of the ready-made type, were prescribed in about 10 percent of the cases.

Psychiatric Evaluation of Selected Patients

Another aspect of the Lighthouse study was a consideration of psychological factors that may lead to acceptance or rejection of low vision aids. In an attempt to understand the personality of patients applying for subnormal vision aid services, the consulting psychiatrist interviewed 50 consecutive non-selected patients.

Capabilities, achievements and reactions to life situations as revealed in the interviews of the applicants clearly indicated that some patients had serious emotional problems. In general, three groups of patients were identified. The first group, about 68 percent of the population, were patients who eagerly accepted the benefits of this professional service. Only four of the 35 applicants in this group had severe emotional problems that might require psychiatric care.

The second group constituted about 10 percent of the patients who could derive help from a low vision aid but directly or indirectly refused to accept either the adaptive training or the recommended correction. Analyses of this group showed individuals who at some time in their lives had suffered emotional trauma which produced suspicious and hostile attitudes.

The third group--about 24 percent--had disabilities which could not be improved by low vision aids.

Psychiatric evaluation of the third group showed several instances of severe mental illness; six patients were in deep emotional depression and three were frightened, anxious and disturbed. Only three patients in this third category seemed free of problems to which they were inappropriately reacting. As a group of these patients were not accepting their blindness; they appeared to cling unrealistically to the hope that some new medical treatment might restore their vision. One significant finding which emerged from these depth interviews was the need for counseling to bring about a psychologically sound acceptance of blindness, especially among patients suffering a recent visual loss.

An Evaluation of Results: Progress Report Data

A final aspect of this report is a summary of our findings concerning the extent to which a patient continued to use his low vision aid and found it a useful part of his everyday life. Since the beginning of the Lighthouse program approximately one-third of the patients (about 335 patients) were re-examined or interviewed between six months and one year after the subnormal vision aid had been prescribed and dispensed. Only patients who had their low vision aids for a minimum period of six months were evaluated. In some cases the data were based on a carefully organized follow-up questionnaire prepared for use either as a telephone or mail inquiry. Each case was carefully evaluated and placed in one of three categories.

Approximately 55 percent of the patients were regarded as highly successful. This group included patients who wore their low vision aids constantly, performed a variety of visual tasks from day to day and were highly enthusiastic about the results.

Another 25 percent were judged moderately successful. Such patients did not wear their low vision aid constantly but reported using it at regular intervals for specific and important visual tasks.

The 20 percent considered unsuccessful were one of two types. Some patients may have been able to continue using their visual aid, but senile changes, poor health or other factors reduced or seriously limited the use of or enthusiasm for it. In other cases, patients seldom wore the aid or expressed any interest in returning for re-examination. From this survey it is evident that about 80 percent of the patients examined or interviewed on follow-up studies are using their aids with reasonable regularity and success. This program is but one means whereby we in optometry are facing, indeed, welcoming, the challenge of meeting the needs of visually impaired children and adults.

3241 Michigan Avenue
Chicago, Illinois

VISUAL ASPECTS OF OCULAR PATHOLOGIES

Ralph Gunkel*

By way of introduction, I might say that I am associated with six ophthalmologists at the National Institutes of Health. My work consists mainly of psychophysical tests, including dark adaptation, "retinal" thresholds, color vision, certain special types of visual field tests, and examination of patients with subnormal vision. I see many patients manifesting uveitises, macular degenerations, glaucoma, and certain types of cataract.

N.I.N.D.B.'s point of view is that anyone who is not correctible by ordinary means to 20/20 vision is visually-handicapped, whether he knows it or not. We also say that anyone who has a near point of clear vision greater than 14 inches, is visually limited. Ordinarily, the latter can be corrected with simple plus lenses, but if for some reason the lenses cannot or will not be used, the person is visually handicapped.

Some people have severely restricted visual fields even though their acuity is normal. If their state's Department of Motor Vehicles requires a larger field of vision than they have, they are visually limited, and this type of limitation is not amenable to complete correction.

In general, we must say that visual limitation is not necessarily related to loss of functional cones, in the central retina, but rather to our ability to meet the visual requirements we have imposed on ourselves, or society has imposed on us. Occasionally I see people with 20/50 vision who are unaware of any problems; then sometimes people with 20/20 vision complain bitterly that they cannot see the fine details that they used to enjoy.

I find that classifying subnormal vision according to cause sometimes helps in a decision as to how or whether it can be helped. Lack of color perception is certainly one type of visual limitation. Total achromatopsia is not as rare as one might think, and it is frequently confused with macular degeneration. The rod achromat has no color perception and usually has acuity less than 20/70. He is very uncomfortable in bright lights, sees better in twilight, and may have nystagmus. A simple dark sunglass may be a great help for his vision, or it may be made into contact lenses. Some achromats prefer a dark red glass or contact lens, although it does not look red to them.

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*O.D., Ophthalmology Branch, National Institute of Neurological Diseases and Blindness, U.S. Department of Health, Education and Welfare.

The cone achromat has perfect visual acuity, so needs no visual aid. His lack of color perception cannot be helped, so he must adjust to it.

The dichromats are certainly visually limited, and this is sometimes a problem, particularly in young school children. They cannot be made to discriminate colors normally, but sometimes they can be helped psychologically.

Albinos have a similar problem to the rod achromats, and for them a dark neutral density filter, either in glasses or contact lenses, is a visual aid. Fortunately, they usually have normal color vision.

In macular degenerations or central uveitis there is always a problem of central scotoma with resulting subnormal vision. In general the aim is to give a corrective device which will give a retinal image large enough to extend outside or around the scotoma. Dr. Sloan will go into this at greater length.

Retinitis pigmentosa is a very common cause of visual impairment and, typically, progresses in spite of anything that is done. Usually central vision remains good in bright illumination for many years, so special lighting must be considered a visual aid. The constricting field cannot be helped. The cataracts which frequently accompany retinitis pigmentosa can be removed, allowing more light to enter the pupil and enhancing vision for a time.

Enlargment of the pupil also helps, but with a five degree central field it is very difficult to improve central vision if it has begun to deteriorate.

In the field of acquired limitations we could list traumatic cataract, which is a problem for the ophthalmologist, as is keratitis. Some types of corneal degenerations of keratitic origin are beautifully corrected, visually, with contact lenses, but this is a delicate matter.

Retinal detachment is another acquired condition which frequently causes visual limitation. This must just be treated surgically by either electro-thermal or photo-coagulation, but it is very difficult and the outcome is questionable. When the detachment has become physically stabilized, the optometrist may be asked to help in adapting a visual aid. Dr. Sloan will tell you much more about these aids than I can.

Bethesda, Maryland 20014

RECENT ADVANCES IN LOW VISION CARE

Louise L. Sloan*

I was asked to talk about recent advances. Those I am going to discuss are based on my own work. I am talking on a very simple topic, namely how best to give useful reading vision to the patient classed as having subnormal acuity. In most cases this assignment becomes one of providing the means whereby the patient can read a newspaper at a reasonable speed.

First, I should like to tell you about a new special reading card for testing these patients. Our laboratory found that acuity for isolated capital letters is not a good indication of the power of the magnifier needed by the patient to permit him to read ordinary print with ease. More useful information is given by tests using continuous text, in graded sizes, viewed at a fixed distance; 40 centimeters for the cards we use.

The smallest print used in these cards is what we call 1M, equivalent to ordinary reading matter such as newspapers, books and so on. Others are multiples of 1M. If 4M print is, for example, the smallest read easily by a given patient at 40 centimeters then to read 1M print he must hold it at 1/4 the standard distance (i.e., at 10 centimeters). The presbyope will need a 10D add to read at this distance, instead of the 2.50 add needed to read at the conventional distance of 40 centimeters. Particularly for presbyopes given high reading adds in spectacle form, there is a close relationship between the actual powers prescribed and those predicted by use of the reading cards.

There have also been advances in types of magnifiers prescribed. At one time everyone was given a telescopic lens for distance with a reading cap (high plus sphere) for near. In these compound lens systems, the higher the add, the greater the magnification. A 2X telescopic with a +10 cap gives, for example, the same magnification as a simple +20 add. Critical depth of focus is also the same. The working distance is 10 centimeters for the telescopic combination, 5 centimeters for the simple +20 sph. However, the field of view of the simple lens is approximately twice that of the telescopic combination and this probably explains why the simple lens is commonly preferred by patients. (Cost, weight and appearance also are factors.)

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*Ph.D., Laboratory of Physiological Optics, Wilmer Institute, Johns Hopkins University

Many different types and powers of high adds are now available in single vision or bifocal form. Some of bifocals are not "adds" in one sense as they are inserts in which the power is independent of the distance prescription.

Some patients discover for themselves that an inexpensive jeweller's loupe can serve as a high add. These are often useful for home trial before giving a permanent prescription. A loupe can also be prescribed for temporary use, when vision is expected to change in a short time.

Many patients, particularly the elderly, cannot use headborne reading aids. They cannot hold the book steadily enough at exactly the correct distance required for a clearly focused image. They therefore try all sorts of "external" magnifiers and, by luck, can sometimes find a stand magnifier of the proper strength which makes reading possible.

Stand magnifiers are those which rest on the page, so that it is easy for patients to maintain the critical object-to-lens distance needed to keep the print in focus. (They are often confused with hand magnifiers. The latter are just like headborne magnifiers insofar as the difficulty of maintaining focus is concerned.) Stand magnifiers, like jeweller's loupes, can be loaned for trial use at home and returned if not satisfactory.

There are two general groups of stand magnifiers: (a) a low power magnifier, used with the eye at a distance from the lens; and (b) a high power magnifier which requires that the eye be close to the lens.

Many stand magnifiers are unsatisfactory because the lens barrel cuts off the light. The Sloan series have a wider range of powers and are cheaper. Some standard magnifiers are intended for use in a spectacle frame, but can be used separately as a stand magnifier.

There are several difficulties in giving other than spectacle reading aids which account for the fact that they are used very little. For one thing, they come from many manufacturers. Some of the trade names are Eze-Rede, SeeRite, Handimag, Optivisor, Telesight, etc. Also, there is no consistent system of rating the magnification of these devices.

Recently we prepared a handbook at the request of the National Society for the Prevention of Blindness. It lists recommended devices and rates them in accordance with the M level of reading vision for which each is suitable. It also gives other pertinent optical data, sources of supply, so forth.

Our shop man is now working on the development of a test kit. It will include all the essential items in two portable boxes. Each magnifier has a code number and fits into its own hole in styrofoam.

The greatest need at the present time is for adequately equipped clinics in each city with trained personnel qualified to prescribe the aids, teamed with experts in solving the economic, medical and other problems of the patients.

Baltimore, Maryland 21205

QUESTION DIRECTED TO DR. SLOAN: How great is the need for training the patient to use the part of his retina having the best visual function?

DR. SLOAN: When I started out I was interested in developing methods of training the patient to read with a magnifier. Much to my surprise I found that as soon as they were provided with the required amount of magnification they were immediately able to read newsprint. When they came back for a recheck there was no evidence of improvement as a result of practice with the magnifier and no indication that they could get along with less magnification than they required at the time of the first examination.

Consequently, I do not believe that elaborate training procedures are a necessary part of prescribing reading aids. It is true that the elderly patient occasionally forgets what he was told about how to use his magnifier and has to be shown again on his second visit. At the first visit, therefore, it is advisable to instruct now only the patient but also other members of his family, who are with him, in the proper use of the magnifier. With the exception of this sort of instruction I do not find any need for elaborate training procedures.

We do, of course, have some failures, i.e., patients who require such high magnification that reading is not worth the effort. Perhaps after training, some of this group might accept a reading aid, but I think it is very unlikely.

VISUAL DEVELOPMENT IN SEVERELY VISUALLY-LIMITED CHILDREN

Douglas P. Wisman*

The subject that we have chosen is one in which we have found a great deal of satisfaction. We practice in a town of two thousand people. A great percentage of our practice is in the visual training of children. We train vision from a "sequentially-learned-skill" point of view.

We still don't know enough to take care of all the problems of children in this field, but we are going to speak of the opposite end of the spectrum from that covered by Dr. Sloan's presentation. She spoke of the older person and we'd like to concern ourselves with the youngster.

For years, the fields of optometry and ophthalmology devised all of their testing and treatment for the mature adult. The child was handled as a miniature or pocket edition of the adult. It seems that in just recent years, we are beginning to think of children as growing individuals, constantly changing.

From this point of view, the concept of visual development adds a new dimension to all of the activities of vision care. Its diagnosis, supervision, education and re-education are as different from conventional visual care as day is from night. The concept does not abandon any of those standard methods of examination and measurement which are based on physical and physiological optics. It does, however, incorporate a much wider ranging battery of tests and treatment programs, including preventive objectives. Developmental vision care is very much related to the school and home, particularly the home. Our thinking parallels closely that of Dr. Arnold Gesell, when he stated that vision ". . .may become a key to the fuller understanding of the nature and needs of the individual child. He sees with his whole being, and eye care involves child care." In the conservation of these, particularly in the young child, visual care goes beyond the detection and correction of the refractive error.

About twelve or thirteen years ago, the Lions Clubs, in their vision conservation program, evolved a project known as the "Winter Haven Lions Story" in which they put some of these principles of motor development to very good use. They use procedures borrowed from a number of disciplines to teach adequate, visually controlled and directed, gross movement patterns of activity. Use is made of such things as balance boards, sloped and standard walking rails, jump boards and other similar materials. These are powerful techniques in which we closely control the patients' visual environment as they proceed under the program.

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*O.D., Member, American Optometric Association Committee on Aid to the Partially-Sighted.

The results have been rather promising. We have had some children who were certified legally blind. Our tests showed, as you might suspect, gross motor inadequacies. At first just as an experiment and later with the increasing confidence born of success, as a matter of systematic routine, we have put them into some of these visually-directed gross movement programs. We had one four-year-old who, after about two months, was able to point out and react to, for the first time, clouds in the sky and the walls and the ceiling and the physical surroundings of his room. This was a rather dramatic change for the parents and the child! We have had a number of patients who were in the severely limited vision area improve to 20/100 or better without alterations in their lenses.

This doesn't mean one throws out the regular prescriptions or even subnormal vision corrections. What we are saying, however, is that in special work with these youngsters and with young adults, we are able to give them a fuller appreciation and utilization of their visual environment than they had up until the time this type of training was given them. So, basically we feel that this work has a very significant place in the care of visually-limited people. It is an area we probably have overlooked as we have been too concerned about getting standard resolution and about which type of lenses to prescribe. We have not seen the forest for the trees.

We would like to go back and take a look at some of the visual developmental aspects of these little children because most of them have been denied just the gross movement patterns that are the birthright of the typical child. Our amblyopic patients have responded very nicely to this type of work in which we follow a progression from gross motor skills to fine motor skills,then to hand-eye relationships, followed by ocular motor skills training. Only after we get them up to "passing" in these areas does it seem that standard optometric procedures take on full value for these individuals.

It is our experience that many severely-limited people, children particularly, can be helped if given a full visual development evaluation and proper supervision of environmental factors in their training procedures.

124 South Main Street
Woodstock, Virginia 22664

QUESTION DIRECTED TO EARL T. KLEIN*: How can the optometric understanding of his visual skills be translated into an understanding of the patient's vocational skills?

DR. KLEIN: The question posed in our discussion group was how to translate into vocational terms the optical measurements of the individual, taking into account any training in visual skills he may have been given and various aids which may have been provided to make accommodations for visual losses. The residual vision, often "compensation", is an important factor in determining what jobs he can perform capably and safely.

It is apparent that the matching of a worker with a suitable job cannot be based on the individual's visual skills alone. All of his abilities must be considered. With the visually limited person, as with anyone else, the first assumption to be made, as noted by Dr. Rosenbloom, is that he is an individual, a whole person. He may lack certain visual functions but he may be a very good speller or a pretty good mathematician or a poor sportsman, and so forth. In short, he is a unique individual.

Once the individual's capacities and capabilities are identified, the next step is to relate them to the occupational matrix of the world of work which comprises 23,000 distinct occupations. These occupations fall into groups based upon the mental and physical demands they make upon the worker. In matching worker and job, the residual abilities, including residual vision, are stressed rather than the visual loss. The U.S. Department of Labor has worked for the last 25 or 30 years at analyzing all the occupations in the American economy and cataloguing their requirements. The most recent revision of the Dictionary of Occupational Titles categorizes jobs in basic terms rather than socio-economic terms for purposes of classification. These basic terms, or factors, include the aptitude requirements of the jobs, the educational requirements, temperamental demands, and the physical requirements, including the visual demands. This system is very useful when applied to job placement or selection for training of persons who are visually handicapped.

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*Acting Director, Office of Evaluation and Reports, U. S. Department of Labor, Office of Manpower, Automation, and Training.

Once the optometric measurements are made, they must be translated into functional terms and then related to the requirements of different jobs. While visual profiles of jobs have been developed in a gross sense through this occupational classification structure, they are probably not fine enough for ultimate usefulness in selection of an individual for a field of training or for a job. I think, however, it is a good beginning and suggests a starting point for further study on the part of an association like this to determine what the appropriate patterns of visual skills are for various tasks.

Another technique, in addition to simply visual measurements, is to subject a client to sample work situations, and actually observe how well he does. This gives you also a measure of the total functioning of the individual, rather than just a measure of his visual capabilities. This needs to be considered as another possibility and perhaps it could be done in some kind of experimental situation designed to produce standardized work samples, each of which had its typical visual profile. There are funds available from various government agencies, such as the National Institutes of Health, the Vocational Rehabilitation Administration, and the Department of Labor, for investigations into problems of this kind.

Washington, D. C. 20210

QUESTION DIRECTED TO EUGENE F. MURPHY*: Would you discuss recent developments in non-visual reading devices?

DR. MURPHY: This is a case of aid to those much more seriously handicapped than many included in the category of "visually limited". There are many people who, even with the best visual aids, are not able to read. Then what can be used?

The Prosthetic and Sensory Aids Service has been conducting or supporting experiments for years with electronic devices which scan the material (with proper illumination and magnification) and then, project it on an array of photocells that might do a various number of things to yield either audible or tactile output. Our problem is to offer simplicity of one type combined with complexity of another against other choices of combinations so as to allow clinicians to find the best balance point for each individual or set of circumstances.

One might have simple devices that put out various tone patterns, or other choices up to complex devices pronouncing words, or at least names of individual letters, or any of a series of intermediate stages. Instead of audible outputs, one might have something as simple as a device that tickled the fingers as a tactile output, up to a machine that would produce, say, something like Grade One or Grade Two braille if one could recognize the actual letters, as input to a translator.

Furthermore, one can have something that mechanically is simple at this end, and likewise cheap, up to a machine that is quite complex mechanically but psychologically simple in terms of output to the user. Unfortunately, we are not able to have something both simple mechanically and simple psychologically. To make something simple psychologically, that talks actual words, tends to require a complex mechanism. Also, we can have various combinations falling in between these extremes.

The very simplest device would be something using a single photocell with output, either a single tone or a single tickling of the fingertip, wherever the cell "sees" black (or conversely, it could tickle when it "sees" white, and stop when it "saw" black, whichever way you want it). There have been such devices which are probes. The Hear-a-Lite was one example, produced with the aid of the Lions Club in Batavia,

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New York, some years ago. The American Foundation for the Blind has a device called the Audivis. The Germans also had this sort of device. Recently, some people interested in training blind individuals to be computer programmers developed a simple probe to sense the illuminated lights on the control panel of the computer. It's important for the blind programmer to keep informed as to the signal lights which are displayed. (Computer programming turned out to be quite a good job for intelligent blind people.) Devices with a single photocell and single output exist, developed time after time, but none has really become popular because, I think, people expect too much of a relatively simple device.

The next type of device would be a direct translator of the shape of the blackened character into either tone patterns or tactile signals related to speed of scanning. One such type is the optophone, invented in England just before World War I, with a production-engineered version in 1920. An English lady, Miss Mary Jameson, has been using the optophone since World War I, and has benefited a good deal from it. Relatively few people have ever taken the trouble to learn this code in which a hyphen would be a sustained pure tone of an intermediate frequency. A capital L would be a chord, followed by a sustained tone, and a slash mark /, a succession of rising tones, very much as if one drew the shapes of letters as musical tones and played them rapidly on an electric organ. The speed of deciphering this code is slow, but at least there *are* such devices.

Battelle Memorial Institute in this country, under sponsorship of the Veterans Administration, developed an improved transistorized version of the optophone, and finally procured ten copies of their fourth model, which had a reasonable state of reliability. It was built into a lady's train case, a substantial piece of luggage but more portable than many tape recorders. Battelle devoted much of its project to development of a training program of 200 lessons, and we have trained a handful of people with this device. They typically reach in the order of ten or fourteen words a minute in the eighth grade, or adult level; from there a steady user can continue to use it reasonably well with slowly increasing speed and versatility. Specialized reading materials in any field (like the Greek words used in ophthalmology and optometry) are perfectly understandable in *that* field, even though they may seem strange to outsiders.

There is an improved version of this direct-translation principle called a Visotoner, which Mauch Laboratories of Dayton, Ohio have built for the Veterans Administration. The Visotoner is still smaller and more portable and fits in a little camera case on a strap over the user's neck, or in an attache case. Ultimately, it will be built to fit in a man's pocket.

The analogue on the tactile side is the Mauch Visotactor, which tickles the fingertips as it probes along over the line of prints. Where the photocell "sees" black, there is a little tickling over the appropriate side of a fingertip so the subject has the sensation of drawing his fingers over a large sandpaper replica and learns again to recognize the individual letters at the seven- to ten-words-per minute level. The Battelle training program can be used with either the Visotoner or the Visotactor.

You can say, "This is hopeless; all of us sighted people know that nobody would want to read that slowly." Yet some few people think this is some value to them, if they are blind people and are not able to read otherwise. At Hines Veterans Administration Hospital a blind braille instructor is quite an enthusiast about the optophone and Visotoner, and has gone through the training program. Now he writes lengthy and glowing reports about his experiences.

We are in the process of buying a few more copies of Visotoners and Visotactors, and we hope to have some individuals trained with them. They are still highly controversial; some people assure you that these devices are hopeless and that nobody would be interested in reading at only ten or fifteen words a minute. This speed certainly is not very much. Yet the remark was made earlier today about the difficulties of reading with high-powered lenses, where partially sighted people can see only a few letters at a time and have difficulty in stringing them together to make a word. Part of the problem is that such a system is slow and annoying if you are trying to read long connected passages. Nevertheless, we have a subject who is trying to read a book with her Visotactor, though we would not really advocate the machine for book reading. We think it is good for the isolated, brief job, as somebody said this morning in regard to magnifiers for recognizing numbers on the thermostat. Direct translators may also help in finding which side of the sheet has the printed letterhead before starting to touch-type a letter. They have been useful in checking personal mail, bank account, return statement from the bank, and checking over a Christmas card list. Sometimes it's inconvenient to find a sighted colleague to read for you, or a blind person doesn't want to ask a landlady to come to check the letter from social security and lose all the privacy.

At the other extreme, one could have some sort of recognizing machine, which given the signals from the presence of black, would actually recognize the way a vertical line means a lower-case l, or the vertical, then a horizontal line, and finally a smaller vertical line means a lower-case h, and so on. Then such machines can "read". So far these are big, expensive machines.

(Just as we left the hotel after the excellent lunch today, I noticed the sign on the next building, "Farrington", a pioneer and one of the several companies which now build this kind of machine, for recognizing credit card vouchers or for a number of other business purposes.) They are typically from $50,000 to half a million dollars, depending on facilities desired. If you are satisfied just to read ten digits of a single prescribed font, then you may get a machine for only $50,000. If you want to read multiple fonts and bound books, such a machine runs up the order of $400,000 and $500,000, and some of them are not very good or reliable as yet.

Now, our problem in working for the blind is to try to find a machine that will recognize any of a variety of type fonts, in correspondence, magazines, or books, and will be in the price range of an automobile. That is what Mr. Mauch is working on, using a Visotactor to carry the input photocells. So far, he is strictly in the laboratory stage, but he has some hope that in a few years to come, he will have a practical, moderately portable device within the price range of an automobile, and a weight in the order of a 35-pound portable tape recorder or electric typewriter.

If you once recognize the letters, there are several kinds of output. One would be "spelled-speech", developed by Dr. Metfessel, in Los Angeles. Instead of getting staccato, T H E, as in an ordinary children's spelling bee, the letters will blend together in any variety or random order that may arise. So, the word T H E is pronounced like "TAYCHEE", a coalesced word-like group, which after about ten hours of training (instead of 200 hours for the optophone or Visotoner) can be recognized quite readily. Instead of 10, 15, maybe 30 words a minute with the simpler devices, Mauch expects to get about 80 to 90 words a minute with the Metfessel "spelled-speech". This speech is equivalent to slow public speaking, but spelled out. We had some test passages at these speeds. When you first hear them, they seem hopeless, but after awhile to your surprise, you find yourself "latching on" and trying to respond to questions asked in "spelled-speech." It goes along at quite a steady speed, and you begin to recognize it without conscious translation.

The next step beyond "spelled-speech" would be spoken words. There are several possibilities. The Haskins Laboratories, which were the central laboratories for the old Committee on Sensory Devices of the National Research Council at the end of World War II (a program which VA was partially involved in sponsoring) had continued to study the nature of speech. By now Haskins Laboratories are world-famous in the basic area of speech studies.

They have felt that the trouble with the outputs of optophones and similar direct-translating machines is that they sound like pipe organs and other devices, but they are not speech-like. Thus, Haskins Laboratories have decided that the only good high-performance speech machine would produce some sort of pronounced words, even though it would take a complicated machine, so big and so expensive that it would have to be in a central library. They have built an interim word-reading machine which, starting with recognized letters, looks up the spelling of the material letter by letter, in digital form. Then it finds on a parallel track the pronunciation of that word if it's one of the 7,000 words in the recorded dictionary, and then pronounces the word out again on the auxiliary tape, looks up the next word, and so on. The resulting passage is a nice flowing speech with rather odd inflection, but it is absolutely understandable with no training. Another possibility would be the synthesis of speech by rule. Both of those turned out to be quite expensive ways of doing the necessary job of producing continuous speech. Haskins Laboratories now think that they can find hybrid or intermediate ways of synthesizing reasonably good speech, in word groups, without completely storing the material in a massive dictionary yet without completely synthesizing it.

Also, if you could recognize the letters, you could translate them immediately into Grade One braille, which is a letter-for-letter transposition cipher. This transfer is not really as simple as it seems. There are some cases where you need two braille cells to stand for one simple letter: for example, capital sign, and the letter, indicate the beginning of the word, but the capital sign doesn't always correspond to shifting to upper case on a typewriter or Teletypesetter in printing. If you want all upper case, you use two capital signs in a row, then emboss the same cells as for lower case letters. If you are willing to have a more elaborate computer, which IBM has developed for other purposes, you can go from the spelling through the computer to Grade Two braille, which is a contracted shorthand type.

Incidentally, I should mention that in the translation area for tactile devices there is also a big and elaborate machine which is probably good for things like wiring diagrams and so on, embossed as large replicas on aluminum foil, but that is almost in the neighborhood of machine complexity.

There is an area in between direct translation and complex recognition which we have called the intermediate. We sometimes dream that maybe we will think of something that is only a little more complex than the simple mechanical devices and almost as good as the word-pronouncing device. Dr. Nye from California Institute of Technology and a number of other people like to dream of this. They think there ought to be an audible "foreign" speech-like output which, though it would not be a true speech, would not require recognizing the material. So far, this concept is highly speculative. Mauch started in this intermediate area, as a matter of fact, yet found himself forced toward the more complex recognition machine to make a good machine for reasonably high speed. Yet, as a by-product, he had a simple direct-translating probe which he had used to carry the photocells sending signals to the matrix which did the recognizing. He thus had the Visotactor as a detachable by-product carrying the photocells, the light source, and so on, and the Colineator for tracking along the line of typing.

These Visotoners, Visotactors, and Colineator tracking devices could be available in a couple of years. We already have a few Battelle optophone devices which now conceivably could be used as training aids for those few people that are willing to go through the extensive training program. I believe there are such people. Some years in the future, we will have more elaborate devices requiring less training, allowing higher speeds, but costing more. We need to keep up enthusiasm about the field and to keep dedicated people busy, thinking and making both major goals and useful by-products. They eventually will fill in the whole spectrum of reading aids for the blind and the deaf-blind.

252 Seventh Avenue
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PANEL 3

"Serving the Social and Economic Needs of our Visually-Limited People"

Evening Session, March 24, 1966

Panel Chairman - EDWIN B. MEHR, O. D.,
Chairman, Committee on Aid to the Partially-Sighted,
California Optometric Association

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PAPERS PRESENTED BY

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RESOURCE PANELISTS

William B. Parsons,	Assistant Chief for Program Development, Neurological and Sensory Disease Service Program, Division of Chronic Diseases, Bureau of State Services, Public Health Service, U.S. Department of Health, Education and Welfare.
Keith Jennison,	President, Keith Jennison Books, Franklin Watts Division, Grolier, Incorporated.
J. Arthur Johnson,	Executive Director, Columbia Lighthouse for the Blind.

LOOKING AHEAD

Charles Gallozzi* and
Mary Jack Wintle**

Part I - Mr. Gallozzi

One thing I have learned in the more than fifty years I have been here on earth is that we might as well accept the fact that a woman is going to have the last word anyway, so I have asked Miss Wintle to wind up this presentation. Another thing you need to remember is that by experience, by training, and by profession, I am a librarian.

We have a great many people come to us because they can't read, but they have to be "legally" blind and meet the requirements. Unless they have visual acuity of 20/200 or less, corrected, they are not eligible for our service. Their optometrists and ophthalmologists may say that if they don't meet this--they have more sight than this; and by generally accepted standards if they have more sight than this--they should be able to read. But the reading that I am speaking of is not the seeing of a single letter on a chart or the reading of a phrase. As a librarian, I am speaking of reading not only words and phrases, but sentences, paragraphs, newspapers, magazines and books, and reading them with enough ease and comfort to enjoy them. So when I speak of reading, keep in mind its rather broad definitions.

It is noteworthy that the American Optometric Association is concerning itself with social and economic services available to visually limited people. In carrying out our library program for legally blind persons, we at the Division for the Blind of the Library of Congress have, for a number of years, been working with professional organizations and urging them to plan and act beyond their prime spheres of activity, and we have received some rewarding cooperation. Publishers who produce books with print designed for normal sight are gladly making it possible for their books to be recorded, or embossed in braille, without

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*Assistant Chief, Division for the Blind, The Library of Congress

**Assistant Selection and Publication Officer, Division for the Blind, The Library of Congress any thought of royalities or other charges. Public librarians are becoming aware that their skills and knowledge are just as valuable when used to help a blind or visually limited person, as they are to the general public. In the past few years, educators have discovered new dimensions and greater potential for their field through techniques and media devised for children who are visually handicapped. And, of course, the activities of the American Optometric Association are encouraging in demonstrating its capability for thinking in terms far beyond the measurement of visual acuity and the prescribing of appropriate lenses. The social and economic welfare of all people has become the concern of all of us, and I want to thank all of you, and particularly your officers and committees, for showing leadership and initiative. There are a great many other professional associations which have yet to follow your lead.

There are two factors which will limit my discussion of social and economic services available to persons with limited vision. The first is my lack of information on services available to persons who are not blind but who are visually impaired. The second is the fact that this group, numbering at least half a million people, has found very few official spokesmen, few organizations to fight their battles or present their problems. Therefore, I will have little to report in the way of present services. Such services exist primarily in the field of education of children, and, in a rather small way, in the vocational rehabilitation of adults. Looking ahead, the picture may become brighter, but only if the need for social and economic services is pointed up. At present this is being done in the area of reading, and as an example, I would like to read you a letter which reached me last December.

"Los Angeles City Schools
Bertrand Avenue School
7201 Bertrand Avenue
Reseda, California

Dear Sir:

I am writing you regarding the distributing of talking book records. I realize the logic of distributing them to legally blind people. However, as a teacher of partially seeing children, I wish to question this system for the following reasons:

As you are probably aware, there is a multitude of reading material available to the normally seeing, and there is a substantial amount of braille and talking book publications for the blind. However, only a limited number of textbooks and almost no spare time reading books are printed in large print for the partially seeing.

Although some legally blind people have distance visual acuity less than 20/200, their near vision may be sufficient so they can read small print. On the other hand, there are people who are not legally blind (those whose distance visual acuity is between 20/70 and 20/200) but who have great difficulty in reading.

I am writing about one student in particular who has been denied the use of talking books since his vision is 20/100. This child is a 6th grader, a very bright boy who is capable of reading and comprehending at an 8th grade level. He has a keen appreciation of good books and loves to learn from them. However, near vision activities present a problem due to his constant nystagmus and the resulting difficulties in focusing his eyes on the print. He does not qualify as legally blind; he can even "read" small print materials. Yet, I cannot consider this as reading in the true sense of the word. A more accurate description is that he struggles through small material--and to a lesser degree, large print material.

This is the kind of vision problem that is too often overlooked, as the child can, with a great deal of time and effort, "manage". He was in a regular class without large print materials until last year. When he was given a small print reading test one year ago, he scored at a beginning fourth grade level--he only had time to do a portion of the test. This year, given a similar achievement test, in large type, but with the same time limits, he scored at the seventh grade level. With 50 percent additional time, he scored at almost 9th grade level, but still did not have sufficient time to complete the test.

Reading is so slow, painstaking, and emotionally exhausting, especially in small print, that regardless of the interest this boy has in a particular book, it is quickly replaced with frustration and negative feelings.

Of my twelve students, five are legally blind, while seven fall in the range of the partially seeing. All read large print; most can read or struggle through small print with varying degrees of difficulty. Of my five legally blind students, I feel that two have no need for talking books because of their usable near vision. Of the seven children who are not legally blind, however, five have sufficient near vision problems to make reading an unpleasant chore and to make the possibility of their using talking books a real blessing and invaluable aid.

I am wondering if there is a possibility of making these services available to people such as I have described.

I hope you will give this matter your serious consideration. I certainly appreciate your wonderful work, and as a former teacher of blind children, I am aware of the joy made possible through talking books. I am hoping that we can share these excellent talking books with children who, although not legally blind, have severe vision problems.

Sincerely,

Teacher
Bertrand Avenue
Elementary School"

If a number of pleas, equally eloquent, are made for other services, I believe that they will bring about results.

I have already mentioned educational services. Last year Congress passed the largest single aid-to-education bill ever proposed, the Elementary and Secondary Education Act. It is projected that more than a billion dollars will be distributed to local school districts through state education agencies during this year. Children with visual impairments will benefit along with all others, and particularly because of the emphasis on audio-visual materials. The Elementary and Secondary Education Act also specifies that the needs of children and teachers in private as well as public schools must be considered. Through this act, and several others, grants are available for the training of teachers, teacher aides, consultants, and other personnel in the areas of special education which is so often necessary for children with visual impairments.

Title VII of the National Defense Education Act now provides five million dollars a year solely for experimentation and development of new educational media, and new methods of using existing media, such as magnetic tapes, video tapes, and motion pictures. Much can be done here for children with limited vision if imaginative plans are proposed. The Division of Handicapped Children and Youth of the Office of Education is specifically concerned with improving their education in various learning situations. Research and development grants are administered by that Division under the provisions of Public Law 88-164. For purposes of the law, the term handicapped includes sight deficiency.

As far as federal funds are concerned, the emphasis is justifiably on children. But the parents of visually impaired children, and visually impaired adults, will also require professional assistance if they are to develop satisfactory relationships with their children and with society. Here the American Optometric Association can play an even more vital part than it is now doing. Sessions such as this one are valuable in uncovering resources in health, education, and welfare to assist in meeting individual needs. But such resources must be brought to the attention of those who need them. Some partially seeing persons may go unrecognized unless they are not only identified but properly referred. Supervisors and consultants in charge of state and local programs report that they find one visually handicapped child for every 1,000 to 1,500 of the school age population. Blind children tend to be reported at about the rate of one for every 3,000 to 4,000. A school official in a large system may expect to find 20 to 30 mentally retarded children, and perhaps as many as 10 deaf and hard of hearing children in his schools for each visually handicapped child in need of special services. To what extent are these figures valid?

Visual impairment directly affects reading. Since reading and making it as easy as possible for all people to read are among the prime interests of librarians, I can not get into an area in which I can claim to be knowledgeable. According to a study completed last year by the American Library Association, and I quote, "anyone who wants to publish material for readers with limited vision, and do it without spending a great deal of money, should find the material he wants already in print and have it enlarged photographically". It had previously been established that it is not necessary to exceed 18-point type to provide the greatest benefit for visually handicapped readers. Actually, the study confirmed what was already known from experience in the production of testbooks in large type. Its greatest value lay in the encouragement it could give to publishers with the knowledge that such a process would be highly satisfactory.

Even before that study was completed the Keith Jennison books appeared in attractive format, convenient size, and 18-point type at a price comparable to standard editions. They were the first popular books of general adult interest to be issued in large type in a sizeable edition. Other publishers have already indicated that they will follow suit, and the future for the reader of large type is now far brighter than it was just two or three years ago.

For more than 30 years we have been providing recorded books for blind persons as substitutes for the printed books they could not see to read. Among the blind eligible for this service were many who had sufficient residual vision that they could read print, but only with great difficulty, as indicated by the letter, which I quoted earlier. Such individuals read print when they must, but would not think of reading as a form of relaxation, or enjoyment, or an adventure to be embarked upon with pleasant anticipation. Those who are eligible find the relaxation, enjoyment, and anticipation in talking books, which in practically every case provide supplementary and recreational reading rather than so-called required reading. No one could think of denying them that privilege, just because they can read with difficulty. Yet, there are thousands of persons who are in exactly the same situation except that you, as optometrists, and the ophthalmologists, on examining them, find that they are not legally blind, and we, therefore, cannot provide them with talkingbook service. Just as I had to say "no" to our teacher correspondent, we have been saying "no" to thousands whom we felt to be in genuine need of our services. But every time we said "no" we became more determined that something should be done about it.

I have here copies of 4 bills which were introduced into Congress just last week. I will give you time to take out your pencils and make some notes, for it is my hope that you will want to support them. S. 3076* was introduced on March 14, 1966 by Senator Hill, for himself and 52 other Senators. Its purpose is to extend and amend the Library Services and Construction Act. Part B of Title IV authorizes to be appropriated 25 million dollars, over a period of 5 years, specifically, and I quote, "for establishing and improving library service to the physically handicapped, including the blind and the visually handicapped. For the purpose of this part the term 'library services to the physically handicapped' means the providing of library service, through public or other non-profit libraries, agencies, or organizations. . ." To the best of my knowledge this is the first time that visually impaired persons who are not legally blind are spelled out as being entitled to library service through federal support. This bill was referred to the Senate Committee on Labor and Public Welfare. On March 16, Congressman Fogarty introduced a similar bill, H.R. 13697, in which Part C of Title IV is identical with the one I have just described. Mr. Fogarty's bill was referred to the House Committee on Education and Labor. On March 17, Senator Jordon introduced S. 3093**. This bill would amend Title 2 of the U.S. Code, section 135, which is the basic law establishing the books for the blind program in the Library of Congress. Whereas our services are now restricted solely to persons who are legally blind, S. 3093 would make them available to blind and to other physically handicapped readers who are unable to read normal printed material as a result of physical limitations. Senator Jordan's bill was referred to the Committee on Rules and Administration. On the very same day, Congressman Burleson introduced H.R. 13783 which is identical with Senator Jordan's S. 3093, and it was referred to the Committee on House Administration. So, within a period of four days, just one week ago, Congress has been asked to extend the use of recordings and other suitable reading media to visually impaired persons, both children and adults, as a public library activity. I feel confident that Congress will respond favorably, and I hope that your voices will be among those which will urge them on and then congratulate them for establishing a long-needed service.

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*These provisions were ultimately incorporated into P.L. 89-511 which received presidential approval July 19, 1966.

**These provisions were ultimately incorporated into P.L. 89-522 which received presidential approval July 30, 1966.

Part II - Miss Wintle

The local public library is the key to meeting the reading needs of the members of a community, including those who are visually limited. For children the public library is the place to form reading habits that will carry them through life; for adults it is the place to continue those habits.

Until recently, public libraries had few resources to draw upon for special collections to serve visually-limited readers. There were children's books with subject, format, and type size for beginning readers; but, by and large, print publishers had neglected the adults. A smattering of spoken recordings--mainly poetry, a few plays--were available, but it is doubtful if many librarians or readers thought of the connection between these and a total reading program--a program that would replace the typical fare of the readers' regular type.

The current picture has some bright spots, notably publishing ventures such as the Keith Jennison Books which are aimed directly at the adult reader. The Division for the Blind's _Reference Circular_ on large type--which each of you should have--lists three different publishers who now produce large-print books primarily for adults. This number promises to increase in the near future, and then we may see a bandwagon reaction with many publishing houses jumping into this market.

Another area for expansion in the publishing world is spoken recordings. The talking-book program for the legally blind has proven the feasibility and popularity of books in recorded form. To do chores around the house and at the same time to be able to read via the ear is an enticing thought. Why should this privilege be limited only to those legally-blind people who are eligible for talking books? Also, not everyone can use print, even in an enlarged form. Why shouldn't public libraries be able to acquire recorded editions of books as well as print editions to help in meeting reading needs for all members of the community.

What this all means is that some commercial publishers recognize a profitable and growing market among the visually-limited. It becomes a practical matter of dollars and cents. The day will undoubtedly arrive when books will be produced simultaneously in regular type, large type and/or recorded editions--all by the same publishing house.

In terms of social needs, the visually-limited will not be ostracized from the reading public because of their handicap. They will be able to continue reading experiences independently. Independence is an important term. To be able to do for oneself instead of depending on someone else is to be able to maintain self-esteem. This applies to reading as well as other activities.

Economically, the cost of books in large type or on recordings should be comparable to the cost of regular print books. This would not only aid public libraries in building collections, but would also encourage visually-limited adults to maintain home libraries. At present prices vary widely. For example, a subscription to Xerox edition of Reader's Digest runs over $40.00 a year; however, the Jennison books are priced within a dollar or so of the original edition. With development of low-cost reproduction methods, the prices of the special books should come within reach of the average reader's pocketbook.

One afternoon last summer when I was traveling in England, I took a busman's holiday and wandered in the small public library at Windermere, located in the lovely English Lake district. The first thing that caught my eye as I entered the reading room was a shelf of large-type books, the Ulverscroft editions. The librarian on duty was well informed on large-type books and their potential for her community which she described as primarily a retirement area when the summer tourists returned home. I wonder how many public libraries in the U. S. you could visit and find large-type materials as prominently displayed? And a librarian as well informed?

The AOA-proposed pilot project of low-vision reading centers relates directly to this problem of getting books and information to the local level where they would be most useful.

After all, public libraries are the key to meeting reading needs of a community--an entire community.

Washington, D. C. 20540

QUESTION DIRECTED TO MR. GALLOZZI: How do you get an overworked librarian to take on the extra workload of obtaining materials for visually-limited?

MR. GALLOZZI: You put more pressure on him, of course. But in all seriousness, we have been discussing this problem intensively in the last few days. The Library will point out to Congress that, if the program is extended to include other handicapped readers, we will need additional funds. The Librarian of Congress is probably right now still preparing his testimony because some of us were conferring with him about it this morning. Adequate funds are one of the musts to any expansion of this program. With funds you can get more staff and Mr. Mumford will go on record as stating that, no matter what, the existing program for the blind will not suffer. I am sure that he would prefer to delay the beginning of any additional services, rather than to cut back on the existing services to the blind.

ECONOMIC AND SOCIAL SERVICES FOR THE VISUALLY LIMITED

Terence E. Carroll*

I have been asked to speak to you regarding the viewpoint of organized labor on serving the economic and social needs of the visually limited, with some corollary remarks on those needs which have resulted from a work-incurred condition. Before going any further, I would like to insert one caveat, and that is that I cannot speak for organized labor; I can only speak about organized labor. Another caveat I would like to add is that I really possess no special expertise in the area of the unique needs; social, economic, or otherwise, of the partially sighted and I suspect that organized labor does not either. However, I would like to think that I am concerned, and I am quite confident that organized labor is concerned, about the economic and social needs of handicapped people in general. Since I happen to feel that the economic and social needs of the partially sighted are probably very little different than those of other handicapped people, I think that you should take my remarks as being general, and apply them to the problems of the partially sighted, as you folks know those better than I.

The economic and social needs of workers cannot be separated from questions involving their health status. The economic and social well-being of a worker generally depends on his ability to hire himself out in the market place for labor. Any condition of illness, or reduction in his physical or mental capacity, tends to reduce his employability and his consequent economic worth in the job market.

The prime requirement for every worker and his family is an income sufficient to enable them to enjoy a modest standard of living, and this in turn depends upon his either having a job, or a cash disability benefit as an income replacement.

There is little that the trade union movement can do to create job opportunities for any category of handicapped persons, including the partially sighted. Unions do, however, play a role in preserving jobs, that is, through a number of strategies, unions assist their members who have become handicapped, in retaining their employment.

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*Director, National Institutes on Rehabilitation and Health Services

1. Through the mechanism of collective bargaining, unions have provided the mass market which has provided the floor for the almost universal prepayment of a substantial portion of the medical care required by workers and their families. Unfortunately, most of this prepayment for health services has been designed to underwrite the cost of acute episodic illness and does not provide payment for the far more common and far more expensive chronic illnesses. Nevertheless, it can be assumed that these programs contribute to health maintenance and, therefore, assist the worker in maintaining employability.

2. Also, through the collective bargaining mechanism, unions frequently have attained for their members income replacement benefits, so that during periods of prolonged illness, a substantial portion of the income loss is replaced by some form of disability insurance.

3. As an organized political force in our states and in the nation, unions have attempted, and with varying degrees of success, to obtain these same kinds of benefits for the population as a whole through social insurance programs. Social security, temporary disability insurance and workmen's compensation are cases in point.

4. While unions are concerned with individuals and their rights and welfare, they do not focus their efforts solely on the individual, but are also concerned about the institutional setting in which men and women work and live. Purveyors of services to people--and particularly of services as personal as those that deal with health--are apt to deal with people as isolated units, and are more concerned with manipulating the patient than they are with manipulating his environment. For example, if a worker with failing vision comes to an optometrist with a complaint that he is having difficulty reading the blueprints on his job, and in reading the numerical settings on his machine, the optometrist is apt to recommend that he wear an optical aid. On the other hand, if he complains to his shop steward, the steward is just as apt to recommend that the company increase the illumination on the job and have the numerals on his machine increased in size.

The point I am trying to make here is that unions are concerned about working conditions, and can and do restructure the job environment in order to assist the handicapped worker in retaining his employment.

5. Most unions have adopted the point of view that a worker has a vested right to his job and the longer he works in that job the greater his right to retain it. Operating from

that assumption, unions have developed seniority provisions which protect older workers by making certain that they have the right to be employed at any job which they are capable of doing and to which their job tenure entitles them.

6. Because unions recognize that their members are citizens first, they therefore have accepted a community responsibility for the welfare of the community as a whole. The AFL-CIO has created a Community Services Activities Department in order to fulfill this responsibility. They have trained thousands of union counselors who participate in fund drives and serve on boards of voluntary health and welfare agencies.

Because organized labor feels it has a special responsibility to represent the working population, it has been particularly concerned with job-incurred injuries and illnesses, and the treatment accorded those who have become disabled as a result of their employment. The trade union movement is becoming increasingly convinced that the various workmen's compensation programs in our country are retrogressing in the adequacy with which they meet the needs of injured workers.

The workmen's compensation resolution adopted by the 5th Constitutional Convention of the AFL-CIO, held in 1963, detailed a long list of specific shortcomings in workmen's compensation laws and administration and recommended 21 items which should be included in every workmen's compensation program.

Among the omissions cited were these:

"a) One-half of the states still do not have compulsory coverage, and twenty-nine exempt employers with less than a stated number of employees.

"b) The original intention of workmen's compensation legislation was to restore to injured workers at least two-thirds of the wage losses due to industrial injuries. There has been retreat rather than progress toward this goal. More than half the states now have maximum benefit levels less than 50 percent of the state's average weekly wage for temporary total disability, and only five meet this standard. By contrast, in 1940 only ten states had maximum benefit levels for temporary total disability--less than two-thirds of the state's average weekly wage--and only four of these less than 60 percent, and none less than 50 percent.

"c) Over a third of the states do not cover all occupational diseases and two states still do not cover any. In addition, workers are frequently denied compensation under existing occupational disease coverage because of restrictive time limits within which they must file a claim.

"d) One-fourth of the states do not provide full medical benefits and a worker in any one of these states may have to bear a portion of the medical cost for his occupational injury.

"e) A return to productive citizenship by every injured worker for whom it is conceivably possible should be the ultimate aim of every workmen's compensation law, but most states still do not make rehabilitation an integral part of their workmen's compensation programs.

"f) Where the injury is permanent, the benefit should not be temporary, but half the states limit benefits for the permanent totally disabled to a period less than the period of disability.

"g) Not only must the injured worker bear the basic inadequacies of workmen's compensation laws, but he frequently has to bear the additional burden of poor administration. Most workmen's compensation commissions do not check settlements carefully, and many injured workers, because of lump-sum settlements and agreements with insurance companies, do not receive their full rights under the law. No worker should have to bear the double burden of inadequate legislation compounded by inadequate administration."

At the sixth Constitutional Convention, held in 1965, the AFL-CIO indicated its impatience with the continuing inadequacies of workmen's compensation in rather strong language.

"Too often, we have found ourselves alone in the fight to secure adequate protection for injured workers and their families. Too often, those who should be in the forefront of the fight to secure improved workmen's compensation legislation have avoided the duty of leadership to accept the easy road of inaction. The states which have assumed the major responsibility have failed in these obligations to injured workers. Under these circumstances, the Department of Labor must take the leadership whether or not it has the support of all interest groups. Its sole concern should be the interest of injured workers. It has promulgated standards for a good workmen's compensation law. A real effort must be made to implement these standards. There is no room for timidity. This urgent need for prompt action requires aggressive and forthright leadership.

"We urge the Secretary of Labor to take a position on the major issues in workmen't compensation and to recommend federal legislation necessary to implement the standards which have wide acceptance among informed persons but little or no recognition through legislative enactment.

"The greatness of our nation is not a gift. It was achieved by those of our citizens and institutions who had the courage to fight for those causes essential to a civilized society. Those who have a special responsibility for the occupationally injured have an obligation to lead the fight in behalf of the cause. Therefore, be it

"RESOLVED: The Sixth Constitutional Convention of the AFL-CIO requests the Department of Labor to upgrade its efforts to improve workmen's compensation laws and to support vigorously federal minimum standards to implement those workmen's compensation standards which the Department of Labor itself has recommended."

That the attitude of organized labor toward providing services to the handicapped is a positive one is demonstrated by the language used in the Rehabilitation Resolution recently adopted by the AFL-CIO:

"The number of handicapped persons who are unable to function as self-reliant members of society is increasing. Advances in medical science have prolonged the lives of many individuals who in previous years would have died as a result of injury or disease and new hazards and changing technology are contributing to the increase in those persons unable to function at maximum potential.

"Society must make adequate provision for the care of the disabled. Every effort must be made not only to care for this increasing number of disabled persons but to return them to productive activities. Organized labor has participated actively in the work of the National Advisory Council on Vocational Rehabilitation, the President's Committee on Employment of the Handicapped and similar state committees, and on the community level to promote job opportunities for the disabled. Organized labor applauds the progress that has been made in recent years by both public and voluntary rehabilitation agencies in rehabilitating the disabled, and particularly commends the Vocational Rehabilitation Administration and its Commissioner for the leadership provided in the rehabilitation field. Yet much more must be done. Therefore be it

"RESOLVED: that, the AFL-CIO reaffirm its position on rehabilitation adopted by the Fifth Constitutional Convention of the AFL-CIO and urges all state and local central bodies to support legislative action matching maximum amounts of state funds to available Federal appropriations. Further, we urge aggressive implementation of the 1965 amendments to the Federal Vocational Rehabilitation Act and the rehabilitation amendments to the Social Security Act to the end that maximum state and local resources will be mobilized for comprehensive rehabilitation programs. Affiliated bodies are urged actively to participate in programs to identify members of union families requiring rehabilitation and to refer them to sources of services, to work for the establishment of citizens advisory councils where they do not exist, to assist in the placement of disabled workers and actively to support community rehabilitation programs. The experience garnered by such labor rehabilitation projects as that of the Sidney Hillman Health Center in New York City, the New York City Central Labor Council and the Iowa Federation of Labor should be widely disseminated and affiliated bodies should work closely with the National Institutes on Rehabilitation and Health Services and the Vocational Rehabilitation Administration in order to initiate and organize similar projects wherever feasible."

Finally, it should be noted that health needs and services today are extremely complex. Not only cannot the health needs of a single individual be met by the services of a single generalist; we have a woeful shortage of all types of health personnel and facilities.

Organized labor is becoming increasingly convinced that those medical care programs which are based on a team approach, utilizing the varied skills and knowledge of all of the health professionals required to meet the needs of the patient, provide the highest quality of care in the most efficient manner. As an example of the type of program towards which labor is moving, let me cite the Metropolitan Hospital and Clinics, utilized by the Community Health Association of Detroit, which is sponsored by the United Automobile Workers. That program is staffed by a number of full-time, salaried health professionals, including social workers, physicians, optometrists, podiatrists, physical therapists, nurses and other appropriate personnel. The services of speech therapists, occupational therapists and psychologists are available as needed, and the Michigan Division of Vocational Rehabilitation has assigned a vocational rehabilitation counselor to the program to assist those patients with a vocationally handicapping condition. All of these professionals work together in a harmonious manner to meet the needs of their patients. Of particular interest to this audience, perhaps, is the fact that the optometric service was established in consultation with representatives of the American Optometric Association, and an audit of the service was also later provided by the AOA.

I sincerely hope that there will be many more such programs in the future, perhaps organized on differing models, but all retaining the essential feature of the cooperative team approach to meeting the needs of the patient.

QUESTION DIRECTED TO MR. CARROLL: Earlier today it was said that labor union rules are partially responsible for preventing employment of the handicapped. Seniority provisions and requirements, for instance, that only women may hold certain jobs were cited. Would you wish to comment?

MR. CARROLL: I know of no such provision in any union contract in the country. The trade union movement has done more in this country for equal treatment for women than probably any other organization in the fountry and fought very hard against this concept of treating women differently than men in the shops under contract. Now, there are certain differences in job capabilities between men and women, and so therefore, unions have also supported state and federal legislation which provides certain protection to women in industry because of these differences, but I don't know of any provision of any union contract that says certain kinds of jobs are to be the exclusive property of women. Now, it is true, of course, that employers frequently will not employ handicapped people. The only thing the union can do, is to say, "We insist that you employ individuals who have met the requirements of apprenticeship training, and so on and so forth." This applies of course only to the apprenticable trades.

Employers may have discriminated against handicapped individuals and refused to hire them, even though they have a job available in the shop which the handicapped person can perform, because of the fact that the union has instituted seniority rules in the plant, and that if a particular job should disappear and the individual performing the job has acquired seniority, the company sometimes is faced with the problem of finding a job which he can do. They may have to restructure that job so that he can do it, and sometimes they are not willing to go through the extra expense necessary; I gave the example of enlarging the numerals on a machine. So in this area, one can argue that the seniority provisions of union contracts inhibits the employment of handicapped people. On the other hand, I believe that the seniority provisions protect workers who develop handicapping conditions while on the job.

Now the trade unions fought long and hard over the years to institute another kind of program to encourage employers to employ handicapped workers--the second injury funds or subsequent injury funds which operate under workmen's compensation laws.

The research which has been done on the subsequent injury laws has indicated that they are not effective. I recall a study in New York City by The Federation for the Handicapped on this. They discovered first of all that employers didn't know that the second injury fund even existed, and what protection they offered to employers that hire handicapped workers. Secondly, even if they did know, they still wouldn't hire them. But, frankly, I don't know of any situation where union contracts or rules inhibit employment of a handicapped worker in a shop.

I can recall a very specific instance of a vocational rehabilitation counselor calling a friend of ours in New York City and complaining about the fact that an employer in Connecticut had said that he couldn't give a handicapped worker a job because of union rules. She said, "How come, what is the problem here?" Well, he checked into it and found out that the employer didn't even have a union shop.

I think we should face up to the fact, though, that most of us have certain feelings of rejection for handicapped people. We have certain fears. We may say first of all when we see this person, I am glad that it didn't happen to me. Then we feel ashamed, and in order to put this whole situation out of our minds, we put them in an out of the way corner in a sheltered workshop. I think that sheltered workshops serve too frequently as ghettos for handicapped people. I want to be gentle with this kind of criticism because, of course, many of them indeed serve as valuable institutions that do provide extremely important services in training individuals who are handicapped and also for terminal employment for individuals who are not employable in a competitive situation.

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Washington, D. C. 20036

MEDICAL ASSISTANCE PROGRAMS OF THE BUREAU OF FAMILY SERVICES

Sarah A. Butts*

This conference, among other things, recognizes that limited vision frequently creates special needs partially-sighted people cannot cope with alone. Consequently, it is necessary that adequate provisions be made for the gamut of services required by this sizeable group.

I have been asked to discuss the present programs of the Bureau of Family Services which are available to meet the social and economic needs of the visually limited. Title 10 of the Social Security Act--Aid to the Blind--is the only legislation that identifies assistance for a particular visually-handicapped group. Visually limited needy people who do not meet the definition of blindness would have to be included among the aged, permanently and totally disabled, families with dependent children or the medically needy. Since some of you may not be very familiar with the Bureau, I will briefly present some information about its structure and function.

Prior to 1963, we were known as the Bureau of Public Assistance, part of the Social Security Administration of the Department of Health, Education and Welfare. The Welfare Administration came into being in 1963 to operate within the Department of Health, Education and Welfare, under the direction of a Commissioner. Dr. Ellen Winston was appointed as the first Welfare Commissioner and still holds that office. The Welfare Administration encompasses four agencies: Children's Bureau, Office of Juvenile Delinquency and Youth Development, Cuban Refugee Program Staff, and the Bureau of Family Services.

Our Bureau program is carried on by 575 employees, who are located in our Central Office in Washington, D.C., and in each of the nine Regional Offices in different sections of the country. It is the responsibility of the Bureau to administer the Federal-State grant-in-aid programs of public assistance established by the Social Security Act passed in 1935 and its amendments. There have been a series of such amendments, the latest and most impressive are the 1965 amendments to the Social

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Security Act contained in Public Law 89-97--Title XIX--Grants to States for Medical Assistance Programs. Title 18--Health Insurance for the Aged, popularly known as "medicare" is the responsibility of the Social Security Administration.

The grant-in-aid programs administered by the Bureau are the following: Old-Age Assistance, Aid to the Blind, Aid to Families with Dependent Children, Aid to the Permanently and Totally Disabled, Medical Assistance for the Aged, and since January 1, 1966, the new Medical Assistance program. Approximately 7 1/2 million people received financial and medical assistance under these programs in November 1965. The cost was then about $435,710,000 per month. Two million one hundred and thirty thousand received Old-Age Assistance; 278,000, Medical Assistance for the Aged; 94,600, Aid to the Blind (the smallest group); 571,000, Permanently and Totally Disabled; 1,056,500 families received Aid to Dependent Children and in these million plus families, there were 3,311,900 children.

You can appreciate that these are vast programs. They operate in fifty states, plus the District of Columbia, Guam, Puerto Rico and the Virgin Islands. Federal funds for financial assistance, medical care and administration costs are allocated, according to formulas, to each of these jurisdictions and must be matched by state appropriations. To be eligible to receive these federal dollars, each of these jurisdictions must meet certain federal requirements, one of which is that each submit a state plan describing their public assistance programs and how they will be carried out. I will mention only a few of these requirements. The public assistance program must be statewide and administered or supervised by a single state agency; the state agency must offer opportunity to anyone wishing to apply and act on such applications with reasonable promptness; records must be confidential; the agency must determine that the people who are aided are needy according to the uniform standard of the state, that is, their "income is insufficient to provide a reasonable subsistence compatible with decency and health." Applicants for Aid to the Blind must have an examination by a physician skilled in diseases of the eye or by an optometrist, whichever the individual may select. The 1962 amendments to the Social Security Act, among other things, encouraged better care for children in the Aid to Families with Dependent Children program by requiring that state public assistance agencies make a social study of each child to determine his needs and promote the welfare of these children and their families. The child's health situation is a part of this study.

It has always been possible for public assistance agencies to provide medical care, but there was no specific allocation of money to help with this until 1950, when federal matching was first permitted for vendor or third-party payments for medical expenditures in behalf of welfare clients. The cost for the first full year of operation under that authority was $70.5 million. Our population has, of course, increased during the last 15 years with public welfare caseloads reflecting that growth. States are now spending more than a billion dollars a year in vendor medical payments for needy people. The 1965 amendments expand medical care provisions for this part of our population. By 1975, states will be expected to provide for the medical needs of all their people who cannot afford necessary care. States in the past have been able to decide the kinds of medical services they will provide as well as the amount and period of time they will pay for care. This resulted in uneveness as you know--old people received more comprehensive care than children, who sometimes got none or very little. The blind and disabled were somewhere in between. The Federal Government contributed its share up to the maximum permitted by the legal formula, whether it was a generous or limited state program. If the state included diagnostic and preventive services, glasses, low vision aids, etc., we would match these expenditures provided the suppliers were licensed or recognized under state law.

When Medical Assistance for the Aged (Kerr-Mills) became effective October 1, 1960, the legislation carried a list of twelve medical and remedial care services states might provide to eligible people over 65 who could not afford to meet their own medical care expenses. One of these items was "Diagnostic, Screening and Preventive Services." States again could offer all of these twelve medical services or less; but for the first time, they had to give some institutional care and some non-institutional, for instance, hospitalization and physicians' visits in the home or office. This was a beginning to establish some balance between the kinds of medical services.

The big advance in broadening medical coverage in public assistance came last summer with Title 19-Grants to States for Medical Assistance Programs. It establishes for the first time a single and separate medical care program in contrast to the medical care provisions covered under the existing five different titles of the Social Security Act. Another important provision is that medical care may not be denied to those who are otherwise eligible but do not meet the residence requirements of the state. Title 19 enumerates fifteen types of medical services a state may provide for eligible needy people. Besides inpatient and outpatient care, skilled nursing home services, dental and clinic services, it includes "eyeglasses prescribed by a physician skilled in diseases of the eye or by an optometrist, whichever the individual may select" and "other diagnostic, screening, preventive and rehabilitative services." Furthermore, states are expected to begin paying the reasonable costs of care, which should end bargain basement or second-class medical care. By July 1, 1967, reasonable costs must be paid for hospitalization.

States have some wide options with respect to implementing Title 19, except that after December 31, 1969, unless they operage under its provisions, the Federal Government will not match the cost of any of their vendor medical care under the individual public assistance titles. January 1, 1966, was the beginning date for this new medical assistance program and several states are already underway. It is likely that by the end of this year, some twenty-one states will have Title 19 programs.

Between January 1, 1966 and July 1, 1967, a state, if it chooses, may offer only some institutional and some non-institutional care. But after July 1, 1967, the inclusion of at least five basic services are required. These are: 1) inpatient hospital services; 2) outpatient hospital services; 3) other laboratory and X-ray services; 4) skilled nursing home services for individuals 21 years or older; and 5) physicians' services, whether furnished in the office, the patient's home, a hospital, a skilled nursing home or elsewhere. Also effective July 1, 1967, states must extend medical assistance to all children under 21 who would be eligible for Aid to Dependent Children whether or not they are in school. (There are some other provisions in this title, but they are not closely related to our subject.) The cases receiving financial assistance must all be equally covered by the provisions of the states' medical assistance plans.

At the same time or later, a state can include the marginally needy group who do not need financial assistance for regular maintenance but cannot afford to pay for their medical care. This is an improvement because it enlarges the group who will benefit from the new legislation. There is, however, the requirement that to be eligible, the marginally needy people must also fit into one of four presently existing categories. That is, they must be 65 or over as in old-age assistance, meet the state's definition of blindness or permanent and total disability or criteria for Aid to Dependent Children. States, if they choose, may cover all children under 21 in families who are unable to afford medical care. However, people over 21 and under 65 who are neither blind nor permanently and totally disabled cannot receive medical assistance under Title 19, unless they are parents in medical needy family groups. Their medical costs would have to be paid for entirely out of state and local funds as many states do already. States must move between now and 1975 to extend comprehensive care to all needy people, so eventually this segment of our population will receive equal medical benefits.

The scope of medical care a state provides should be both comprehensive and of high quality. Hospitalization; clinic and outpatient services; physicians' visits in the office, home, hospital, a skilled nursing home or elsewhere; prescribed drugs; dentures; prosthetic devices; skilled nursing home services, home care services; eye glasses; low vision aids; screening, preventive and rehabilitative services and necessary transportation expenses to obtain medical care can all be included. States with adequate financing can now afford to offer such a full scope of care to both the cases receiving financial assistance and those whose marginal income will not cover medical expenses. Low income states may not be able to move to this broader medical assistance program before 1970, when they will have to do so or lose federal dollars. Some may come in only with the people eligible for a money payment and later on add the marginal group.

As I mentioned earlier, the new legislation, among other things, equalizes the medical services provided so that all eligible recipients are entitled to the same scope of care, in the same amount and for the same period of time. When states come into Title 19, if they include physicians' visits (and after July 1, 1967, they are obliged to) all their aged (if not otherwise covered) blind, disabled and Aid to Families with Dependent Children clients will be able to get this service. A state may cover the marginally needy as well; although here, the state has another option: they may offer a lesser scope of medical services to the latter than to their money payment cases, but not more. If they provide glasses for old-age assistance recipients, it will be necessary to supply them for the permanently and totally disabled and Aid to Families with Dependent Children cases too. If they include ambulance and transportation costs, they must be "across the board" too.

In addition to financial and medical assistance for eligible needy people, the public assistance program, operative in every county, some 3,000 across the nation--also provides social services. These are needed to help our recipients, insofar as possible to reach their maximum level of functioning. The goals, of course, vary with the age of the client, his educational and occupational background, the state of his health and, last but not least, what he wants for himslef. To be more specific, we are anxious that the children in our program grow up in harmonious households with good health and opportunity to receive the schooling necessary to prepare for suitable work; that the underemployed and unemployed become fully self-supporting; that the handicapped are directed to the proper rehabilitation agency which is usually the nearest office of their State Vocational Rehabilitation Agency; that the aged and chronically ill be restored, if possible, to the extent they can care for all or at least part of their personal needs and helped to maintain this level of functioning. In other words, public assistance funds, program and staff services are for the purpose of maintaining and strengthening family and individual lives. This is indeed a tremendous commitment and one in which we cooperate with many other organizations, both public and voluntary. I will identify a few.

I previously referred to the Vocational Rehabilitation Administration, which has statewide coverage. They finance a substantial amount of eye care for public assistance recipients with whom they work. The programs of the Children's Bureau are another important resource for welfare recipients. They include Maternal and Child Health, Child Welfare and Crippled Children services. State and local health departments and school health programs also provide essential health care for many public assistance clients. The U.S. Public Health Service through its leadership and funds, including money for special project or demonstration grants, improves and extends health and medical care opportunities for our citizens, needy and otherwise.

As you realize, public assistance is "a cradle to the grave" resource for needy people who meet the eligibility requirements of their state. I am not sure how many babies come to your attention, but from the pre-school age group up to the very elderly, you see the same life span we do. And some of the same problems that beset people may come to your attention, directly expressed or sometimes only hinted at. I can think of a few that are not uncommon, although I realize a more extensive list might come from this audience, perhaps as part of the buzz sessions and workshop discussions.

It is important that you know the scope of medical care your state public assistance agency provides. If your patients cannot afford eye care, they may not know it might be paid for by public assistance. You certainly cannot and should not decide whether they are likely to be eligible; only the agency can make that determination. But you can tactfully suggest they consider discussing their circumstances with the local welfare department. Even though they may not be eligible at that time, an important part of the agency intake department's responsibility is to direct such people to another resource in the community that can provide the service. Although there is a certain amount of publicity about the help available from community agencies, very often it does not reach many of the people who need the services or even if the word gets through, such people have only vague ideas of just where they can obtain assistance.

Trouble, especially for poor people, is seldom confined to a single difficulty. They may identify only the most pressing need at a particular time, or mention the one thing they believe the person they are consulting can help them with. Thus, needing glasses or treatment they cannot afford may be but one aspect of several serious problems eye attention alone cannot solve. A referral may result in the provision of a variety of services.

The effect of a severe visual limitation as you know, is different for each handicapped person. Fortunately, a good many of this group understand the reason for the impairment and can live with it, making a good adjustment to the social, educational and vocational limiations the eye difficulty imposes. These people may be poor, have a marginal income or be well off. However, the public assistance agency is set up to serve the poor and those who, because of inadequate resources, are likely to need such assistance.

So you may think of the public agency as a resource for your patients when you find they seem to require any health or medical services. Your examination may reveal the presence of illness or disease that is not receiving attention. We are anxious to have our families accept preventive care as well as medical intervention to forestall the progression of ill health. Parents, for various reasons, may not recognize defects in their children that do not cause discomfort or think they do not matter and will be outgrown. If such parents come within your purview, there may be an appropriate opening to suggest that correction of the defect is important and how the necessary service can be arranged.

Progressively serious eye conditions pose great concern to the patient and also his family. If the patient is a wage earner, he or she may have to give up their customary work and need a referral to public assistance. If it is an elderly person living alone or responsible for the care of others, they may no longer see well enough to do the household tasks safely.

They could ask the welfare department about other living arrangements such as a boarding home or similar protective care, something that is now needed but they cannot afford.

There are recipients of public assistance, usually the elderly, who--like the elderly in better economic circumstances--just cannot accept the fact that properly prescribed and fitted glasses will not "make their eyes as good as new". They are prone to go from office to office believing somebody, somewhere will supply the pair that will have the desired magical result. Professional time and tax funds are wasted during such searches. If welfare clients with this pattern come to your attention, I suggest they be referred to their caseworker. It is the latter who knows this person and can take time to sit down and talk through the basic difficulty, namely, the meaning of the eye problem and the difficulties it poses for the person. Help in these areas should result in a more realistic acceptance of the visual handicap so energy can be spent more productively in making the best use of remaining sight, rather than denying the existence of the impairment.

If you follow the clues your patients offer and express interest in the difficulties they face, it will often be possible to discover that financial and/or medical needs are pressing.

Then you may find the timing is appropriate to inquire if they would not like to discuss these matters with their local public assistance agency. If they agree but do not know the location or when to go, this information can be easily obtained. If direct advice is sought, of course, a direct answer can be given. The patient must make his own decision; to apply now or later or not at all, but whatever the choice turns out to be, it is the rare individual who will not appreciate this evidence of your concern for his situation.

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QUESTION DIRECTED TO MISS BUTTS: What standards will be used for evaluating the quality of medical care provided under the new public assistance program?

MISS BUTTS: Congress intends this care to be of high quality and included certain references in P.L. 89-97 to give such support. One of these requires the establishment or designation of a state authority to establish and maintain standards for the public and private institutions where recipients of medical assistance will receive care or services. Another is the payment of reasonable costs for inpatient hospital services at least by July 1, 1967. More generous federal sharing of medical care expenditures will allow states to increase payments to other suppliers as well, which in turn will make it easier for our clients to obtain quality care. This will help to eliminate the gap between the cost of service and the amount of reimbursement that has too often been the pattern in the past.

The Federal Government will meet 75 percent of the states' outlay for the salaries and even the training of skilled professional medical personnel and supporting staff of the state who will administer the state medical assistance program. This will insure qualified direction and leadership for our programs. Regular 50 percent matching of other administrative costs of all public assistance programs is in addition to this 75 percent.

Each state, as part of their medical assistance plan, must set up in their central office a medical unit with a full-time director with appropriate experience in a recognized medical care or health services program. If this person is not a physician, then there must be provided at least half-time services of a physician. There must also be a full-time graduate social worker, a part-time dentist and pharmacist and such additional technical and professional staff as necessary. As the program expands, there will be similar medical units in regional or local offices.

A State Medical Advisory Committee representative of the health professions and consumer groups is required to meet regularly to evaluate the program and advise the welfare director about its operation. Each state must submit regular reports to the federal level and develop satisfactory methods for continually evaluating their medical assistance plan.

I might add with respect to standard-setting, there is a timetable to insure that our Title XIX standards for hospitals, outpatient hospital services, skilled nursing homes, laboratory services, etc., will be the same as those required by Title XVIII for the elderly.

The Bureau has responsibility, delegated through the the Secretary of Health, Education and Welfare and the Welfare Commissioner, to follow state medical care programs in these as well as some other ways to make certain they carry out both "the spirit and letter" of the legislation.

COMMENTS BY RESOURCE PANELIST

William B. Parsons*

I want to express our appreciation for the invitation to participate in this conference. In discussion that I had with some of the participants, I was asked to comment on the activity of the Neurological and Sensory Disease Service Program and specifically to comment on our activities in the vision area. We are primarily concerned with activities in the areas of vision which lead to prevention of blindness. At the present time we are involved with glaucoma detection; diagnosis, treatment and follow-up. Another area of concern is amblyopia detection. We are stimulating detection activities among preschool children which include diagnosis and treatment.

There is some controversy on the advisability of screening. At this time in view of the information available to us, we are maintaining our interest in these areas and will attempt to clarify the issue and work with the eye specialists in achieving prevention of blindness.

Another activity of interest is the prevention of traumatic injury to the eye. This activity is related to control of environmental conditions and involves coordination and cooperation with the Division of Accident Prevention, the Society for Prevention of Blindness, and others who are vitally concerned. We are involved to a limited extent with the partially sighted, which we are discussing here today. We are interested in working with those people who have this as a concern. However, at the present time we are only in a position to provide moral support. Later, we hope to be able to give more than moral support; when we do, it will be in cooperation with the Vocational Rehabilitation Administration, the Welfare Administration, the Library of Congress, and other organizations and professional groups such as yourself.

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COMMENTS BY RESOURCE PANELIST

Keith Jennison*

I didn't come here to talk, I came here to listen. I will say a few things; and if there are any questions later, I will be delighted. I have never suggested that large type is any substitute for magnification. It appeared from research that it might help some people to make up their minds as to what kind of magnification they wanted in terms of a new kind of book. The books are 8-1/2" x 11", because enlargement of the existing publishing page produces a book that size.

The title selection in the first thirty titles was deliberate. Fifteen of the first thirty were selected from those adult classics that are annually assigned at the junior high and high school reading level. This is because the school system said it was their deep wish to keep, as much as possible, all the students in the same class in their required reading assignment. The other fifteen books are more or less generally recreational adult titles. All of the books, almost without exception, bear the double star of the standard catalog and the double starred entries in the catalog which all libraries use are awarded very sparingly by a library committee each year.

The use records of the book so far prove almost nothing. The first group of ten was completed only last September, so I can tell you very little, and I am not even sure of that. However, the circulation figures were enough so that my Board of Directors said, "How many titles would you like to do next year?" And I said "fifty", and they said, "fine", and this represents the commitment of somewhere around $300,000, so I felt they must know something that I didn't.

In the school systems, they are being used not only by special teachers but by a group of reluctant readers who have no visual problem whatsoever. They are also being used by some extremely advanced third and fourth grade readers who are tired of Dick and Jane, but who responded to a more comfortable size type.

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Someone said that these books may be good for tired eyes, but are bad for tired hands. They are library bound, reinforced, which add weight to the books; and book-making, I suspect, is like politics, the art of compromise. They are physically about as good a book as the professional book publishing world can create at the price which is being asked.

I wish to thank all of you for the advice and encouragement that you have given me over the last couple of years.

QUESTION DIRECTED TO MR. JENNISON: This question Mr. Jennison can answer in record time. Where can I get the title list of the Current 30, and next year's 50 books?

MR. JENNISON: On the table outside is the list of the 20 that are available now; I have got a list of the 10 for April and May with me because it is a question of what order we will publish them. I have a list of the balance of this year's books, but I cannot show it because I have not got the contracts finished with the owners. Anyone who is interested can pick those up. There is also a reprint of Saturday's Review article on the way that this came about.

If I can have ten seconds--another thing--the librarian is not tired of being a librarian, she is tired of not having enough money. I have traveled 25 major cities and talked to the chief librarians in all of these cities. There are a lot of ways a librarian--waiting for Congress to act--by going to the local Lion's Club and saying that I need so much money for a special library project this year, can get it up.

Tomorrow morning we are going to talk in some detail about the possibilities of the American Optometric Association's Committee on Aging making some of these materials available in places where the librarian would love to have them and doesn't want to wait until money comes from Washington.

COMMENTS BY

J. Arthur Johnson*

I want to give you just a thumbnail sketch of the types of services that are available in an agency such as the Columbia Lighthouse for the Blind. It would, in turn, give you some idea of the resources in your own community, or somewhere near you, to which you may turn.

There are, in most major cities, agencies such as the Lighthouse, which is a non-profit agency operated by a volunteer Board of Trustees. In other communities, where non-profit agencies have not been developed, you will find that the state's welfare, or rehabilitation agencies, themselves have done a pretty good job in establishing various types of service programs. Usually these state programs will maintain branch offices in larger towns and county seats within the state.

The Columbia Lighthouse operates a sheltered workshop, which is a transitional type of shop. At least is is our objective to have it as a transitional shop. We don't feel that every blind person or partially sighted person should necessarily have to stay in the sheltered environment over a long period of time.

In the shop at least 75 percent of those persons engaged in direct labor operations fall within the "legal definition" of blindness, namely visual acuity which does not exceed 20/200 with the better eye with correction, or where the field is restricted to 20° or lesser angle.

There is a requirement in the regulations pertaining to the Wagner-O'Day Act, which stipulates that the government will purchase from workshops for the blind those items which the workshops can make in sufficient quantity, and at an acceptably quality level and at a fair market price. When workshops for the blind started out they produced only traditional items such as brooms and mops. Today, there are some 65 items on a schedule of blind-made products, and only one organization has government purchase priority over workshops for the blind, namely, Federal Prisons. Prisons do operate industries and where they are making items used by the government, the government first turns to them for those items which they produce. If prisons are unable to deliver, they will clear the item, and government purchasing people then turn to workshops for the blind. Throughout the country there are some 4500 people today employed in about 70 workshops which participate in this government purchasing program. There is a non-profit agency in New York, National Industries for the Blind, which receives requests for goods and in turn allocates orders to various workshops. For example, the Columbia Lighthouse makes the government issue necktie. Part of the consideration as to where the allocation goes is the delivery point.

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*Executive Director, Columbia Lighthouse for the Blind

There are three workshops for the blind throughout the country which produce the neckties, and allocations depend to a large extent as to where they are needed. The average wage in the some 70 workshops last year was around $1.39 per hour, so they are not necessarily "sweatshope". They try to gear their pay rates to the going rates for similar operations in their own communities. This is a major rehabilitation service.

It is very interesting to note that there has until recently been a gap in the thinking between those people running "rehab" centers and those running workshops. Lately it has been recognized that work is an important factor in rehabilitation, which fact has not been recognized earlier.

Other services you would find in agencies such as the Lighthouse are specialized rehabilitation services. For example, a person who loses his sight becomes immobile and can't do anything until he becomes mobile again. The use of the white cane is a highly specialized technique. It doesn't involve just taking a cane and putting it into a person's hand and saying "You have it". It takes patience and extensive training, not only in the technique of using the cane, but such things as identification of sounds and smells, and flow of traffic and other kinds of sound. It involves learning to recognize voices, and developing other senses so that maximum use is made of them.

There are many techniques of daily living. For example, you pick up your phone and dial the number. The blind person must memorize the position of the letters and numbers on the dial before he can make a call. The blind woman or man who loses his sight or her sight is taught how to keep house, how to dress, and what colors to wear, and so forth. During this period, there is an on-going of evaluation of his skills, aptitudes and interests. He finds out whether he can work with his hands--whether he has any fear of machinery--whether he is interested in working with machinery or tools. Psychological evaluation is another aspect. These are some of the things which go into a rehabilitation program carefully designed to help the person minimize as many as possible of the problems created by loss of sight and to try to get him to function as near normally as possible.

In community or social services, you will find professional social workers and other specialists who will spend much of their time in the community with the kinds of families about which Miss Butts was speaking. Families and individuals on welfare rolls have many, many problems. Many of these persons become real "pros" at working both ends against the middle, and will have several agencies working on the same problems at the same time.

On the other hand, agencies will sometimes fail to do their jobs properly and promptly. This results in the individual's getting tired of waiting, so he goes "shopping". Less aggressive persons become discouraged and withdraw. They get lost.

They shouldn't get lost, so if there is a way in which you, as optometrists, when the prognosis for a patient is poor, can get them into the hands of an agency specializing in services for the visually handicapped, do it fast. It will be far easier to make adjustments. It is tough to get these people out of their shells.

There are usually some services for children in a community or within the state. Some public schools do have braille and sight-saving classes. Some have sight-saving classes alone. Some don't have any special classes. In some instances the parents, for religious or personal reasons, send the children to private or parochial schools. When there is one handicapped child with sighted children, the school cannot be expected to have special staff or equipment. Roughly, these would be services you could find in communities around the country, and I suggest that if you are in a larger city that you make inquiries; and if possible visit one of these agencies. Certainly they would be glad to send a representative over to your office to give you background to help you to know of this resource and other community resources.

One of our major functions is not to try to be all things to all visually handicapped people, but to find in the community the very best services that can be obtained which would help that person meet a particular problem. For example, if there is a family problem where in the Family Child Agency would be the logical agency, we feel that the referral should be made to that agency because it is a family problem. If they need some orientation about how blindness may affect the problem, we can give it to them, but they do the counseling and they get into the problem on the same basis as they would without blindness.

Most of these agencies serving visually handicapped persons have at their fingertips the information regarding resources in the community which will enable you to make a referral most directly to the place where you think the patient should go, thus avoiding the possibility of having him run from place to place without results.

Perhaps I've taken more time than I should have, but I did feel it was important for you to be aware that almost anywhere you can find specialized services for visually handicapped persons.

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DISCUSSION BY MR. J. ARTHUR JOHNSON: This is a discussion of the relationship between labor union rules and employment of handicapped workers.

MR. JOHNSON: I have a comment, and then a question. I once did placements of blind persons in industry. I placed a blind girl in a plant on the lowest level job. She did very, very well. She moved up to the next lowest level job; but the next couple of steps were jobs that she could not handle. There was, however, one job three grades away that she could handle, and I had to argue very strongly with the union not to make an exception in her case. I knew very well if they had done that, there would have been a lot of disgruntled people in the plant, resulting from a violation of the seniority rule. This move would have jumped this blind girl over a substantial number of persons with greater seniority, all of whom had a right to a job at that level. This is a reverse situation from what Dr. Feinberg was talking about.

The union wanted to do something for this girl. They thought for her sake it would be good--but finally realized that the other people who had lost out would have resented her deeply.

The question I had relates to Mr. Carroll's comment about the man in the plant who could not see the numbers on the machine and the union steward fought to have the numbers enlarged. I am wondering if the unions could be educated so that the first thing the steward would think of would be to have the man's vision checked rather than having the numbers enlarged.

It is possible that serious harm could be done to the individual if he needed glasses but didn't get them because enlarged numbers enabled him to see. The man's eyes could be permanently damaged.

COMMENTS BY PANEL CHAIRMAN

Edwin B. Mehr*

What Mr. Johnson just said was something dear to my heart. Somebody in the community, and it's very fine if it is the optometrist, should know the services available and where they are available, and to whom they are available, and how you go about getting them. I think the last words were, "you can find these services in any community," and I'd like to correct that, if I might. The services are available in almost any community. I am not sure you can find them. You need a map and you need a detective.

I was, once, very impressed by a blinded school teacher, a man who had become legally blind through loss of his central vision. I heard him speaking at a panel on vocational rehabilitation. He was recounting his experience. I was very impressed by this man because he had been rehabilitated as quickly as anyone I knew who had this terrible thing happen to him. He was intelligent, he was alert, and his wife was a public health nurse who was also intelligent and alert; and she had no idea what services were available. I repeat, the public health nurse had no idea what services were available and where they were available for a person who had lost his vision. But she knew a few places to start asking, and she found out about everything, I think, that was available for this man and some things that weren't even appropriate, but were available for people who had lost vision.

They were very impressed by the fact that not one person that she had asked in agencies, private or public, gave her all the information. There wasn't any one place that she was able to get all the information. Nobody knew about all the services, and if they did, they never told her. She found out about the low vision clinic at the University of California, Berkley, The School of Optometry. He went there and was fitted with a low vision aid.

She found out about all sorts of things, including things that he probably didn't need; as for example, mobility training. He had very good peripheral vision and so the mobility training program, in one sense, he didn't need. In another sense, though, it may have been very good for him. He said that gave him the greatest lift his spirits ever had. He realized there were a lot of people worse off than he was. He could get around, and these other people had to use long canes and so forth.

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I'd like to emphasize this. If you do nothing else for your low vision people, start them in the right direction. You can do them a great service.

PANEL 4

"Reaching Our Visually-Limited People"

Morning Session, March 25, 1966

Panel Chairman - DOUGLAS P. WISMAN, O.D.,
Member, Committee on Aid to the Partially-Sighted,
American Optometric Association

* * * * * *

PAPERS PRESENTED BY

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Mrs. Kate Kern,	President, Maryland State Federation of Chapters, Council for Exceptional Children.
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RESOURCE PANELISTS

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SOME PROBLEMS IN IDENTIFYING THE VISUALLY LIMITED

Hyman Goldstein*

The word "identifying" in the title of this paper is used, not in a diagnostic sense, but rather with respect to ways and means of determining the magnitude of the numbers of visually limited persons.

My experience in identifying visually handicapped groups in terms of their characteristics has been largely limited to the most severely disabled, namely, the legally blind. However, it is my belief that while there are differences in the types of problems encountered in studies of the magnitude or prevalence of blindness compared with those of other visually handicapping conditions, there are many similarities in the approach to such studies. Surely what has been learned from studies of the one may, in part, be applied to the other. This is so because, except for the arbitrary line of demarcation used to define legal blindness, namely, visual acuity of 20/200, there is no significant difference that distinguishes the characteristics of those persons with visual acuity slightly better than 20/200 from those with visual acuity slightly worse than it. Similar reasoning would apply to any arbitrary line of demarcation.

In my comments which follow, I shall refer to two terms which are often confused and, hence, should be defined at the outset. These are prevalence and incidence. "Prevalence" is defined as the number of cases with a specified disease or impairment living in a community at a given time; "incidence" as the number of new cases with such disease or impairment occurring in the community during a given period of time. Before any problem dealing with a disease or impairment can be effectively tackled, one needs reliable information on its incidence and prevalence in the population as well as on the causes of the disease or impairment and characteristics of the affected.

There are two well-established ways of getting information on the prevalence of disease or impairment in a community: (1) the sample survey (including the census which is 100 percent sample survey), and (2) a routine reporting system resulting in a register. Each has its advantages and disadvantages. In both there is confidentiality of the identity of interview coupled with some objective examination.

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(1) In the first instance, an attempt is made to interview a random sample of households and to obtain certain information about the prevalence of the condition being surveyed. This condition is often poorly defined by the interviewer and/or poorly understood by the respondent. Questions relating to impairment cannot be answered definitively in the absence of examination. The institutionalized are usually missed. Too often the person answering the door is asked to report on the condition for every member of the household. Also, too often this person may not even know of the existence of such condition or, if he knows, may be reluctant to reveal it to a stranger. In very few surveys is a determined attempt made, through repeated call-backs, to see every person in the household.

It is evident that the addition of objective examination to the interview would greatly increase the validity of data secured by sample survey. Unfortunately, however, the number of sample surveys where an attempt is made to obtain data by objective examination on every person, including the young, the aged, and the infirm, in homes of a randomly selected group of households, may be counted on the fingers of one hand.

One such study, however, is at present under way in Egypt, sponsored and financed by the National Institutes of Health under a P.L. 480 agreement with the University of Alexandria, Egypt. In this study, a four percent random sample of households was drawn from a population of 25,000 such households in an area in Alexandria cutting across strata of all socio-economic levels. A similar sampling was made in rural areas outside of Alexandria. An attempt is made to examine the eyes of every member of the household, using the Titmus Optical Vision Screener and Schweigger Portable Perimeter. Where distance vision is 20/200 or worse with the better eye, refraction is done to determine whether such vision may be corrected to better than 20/200. Where such vision is better than 20/200, the field of vision is measured.

Persons, screened out on the basis of decreased visual acuity and/or visual field (20 degrees or worse) as potentially blind, are examined by an aphthalmologist to confirm the visual acuity and field vision findings as well as to attempt to arrive at a diagnosis which is classified in a uniform way by site and etiology. Of course, such a sample survey furnishes us with visual acuity data on a sizeable segment of the non-blind population as well as on those with monocular or binocular blindness.

Such a survey has enabled us to secure age-sex blindness prevalence rates in the study area with which to compare rates on the basis of a future voluntary registration of the blind in those areas. While surveys which include objective visual measurements produce more meaningful data than those limited to interview alone, the high cost of conducting objective examinations is generally an insurmountable barrier. Indeed, the financial obstacle undoubtedly accounts for the very limited number of surveys which include examination with optimum correction.

Thus, the sample survey is a one-shot attempt to estimate the prevalence of a condition in a community at a given time. Incidence of a condition is not available by this method unless attempts are made to re-survey the identical sample after a suitable interval of time in order to determine the cases newly-developed in the interval between surveys. A sample survey is not usually tied to any further follow-up of the cases revealed by the screening for purposes of confirmation, diagnosis, or treatment. In view of the fact that it generally applies to only a sample of households and not to the whole community, it obviously cannot identify all individuals in the community who are in need of specific services.

(2) The register derived from a continuous reporting system is a continuing mechanism from which data may be secured on prevalence and incidence. It is in the great majority of cases based on authenticated professional examination and diagnosis. It presents a continuing contact with the registrant so that services, treatment and changes of status may be documented and so that updating of the data by removal of deaths, sight recoveries, and so forth, may bring the register up to date.

A register may understate the prevalence of affected population because of one of two basic reasons:

(a) A person may not have been diagnosed by a professional examiner;

(b) A person so diagnosed may not have been reported to the register by the examiner.

The under-reporting due to the first reason is presumed to be minimal in the case of blindness because of the nature of the condition. That due to the second reason may vary with socio-economic status, age or other factors. However, it should be mentioned that even the wealthy blind need and want such services as talking books. Their contact with agencies providing such services would make them known to the register.

This would fulfill the latter's needs as well as that for more complete statistics. Optimally, in this type of operation, periodic evaluation of the error of under-reporting is by house-to-house surveys with some type of objective screening examination supplemented by professional examination of all or a sub-sample of those screened through as potentially affected with the disease or impairment under study. Or else, it may be feasible to get the cooperation of a sample of the professional community to permit comparison of the data in their records of the blind with those on the register. This would permit a determination of the under-reporting of diagnosed blindness to the register.

Society has traditionally, through governmental sources, made available specific types of services to the blind. Thus, it is automatically guaranteed, when a blindness register has been established, that statistics on the identity, characteristics and needs of such blind persons would be generated. A case register is one record system which readily lends itself to dual use, as an administrative tool in a service program, and as a source of morbidity data.[1] Such statistics are a great help not only to the administrator but also to the research worker interested in various studies relating to specific types of blinding conditions.

Thus, the register offers a mechanism of generating statistics on prevalence and incidence of the condition under consideration on a continuing basis. Through continuing contact with the patient, where desirable, it can keep an accounting of services and treatment rendered and can provide statistical data to show the effect over time of the introduction of prevention and control measures. It offers access to study of specific types of research problems.

Several years ago in response to a flood of inquiries to the Biometrics Branch, NINDB, for specific information on the prevalence and incidence of blindness by age, sex, race, and cause of blindness, an effort was undertakne to set up a system in this country which might make it possible to collect blindness data uniformly on a routine, continuing basis, using a standardized definition of blindness and classification of causes of severe vision impairment and blindness. Such data would make it possible to arrive at annual age-sex-race prevalence and incidence rates by cause, visual acuity and other characteristics of the blind. This development, the Model Reporting Area for Blindness Statistics,[2,3] sponsored by the National Institute of Neurological Diseases and Blindness (NINDB), now includes 14 states, with 4 more states to be admitted soon. When this occurs, it will embrace about one-third of the United States population. It is hoped that before too long the composition and number of states in the area will be such as to permit national projections of statistics on blindness.

The Model Reporting Area makes use of the mechanism that many states have already established, namely, a blindness register. Such register may be established by state law or be on a voluntary basis. Reporting to the register may be mandatory or voluntary. At any rate, what the Model Reporting Area has done is to ensure, as much as possible, that certain standards, alluded to above, are met so that the data made available to the NINDB, are poolable and comparable.

Now what does all this have to do with the partially sighted who are not legally blind? Obviously, although a number of states offer services to such persons, very few, if any, keep statistics on such patients which admittedly represent only a fraction of those with moderately defective vision. If we recognize that defective vision is a public health problem, if only by its sheer magnitude, then the possibility of an approach to secure uniform statistics become apparent.

In view of the fact that a large percentage of all sensory input is visual, a defect in this sense organ must be considered seriously, particularly in light of its relationship to the individual's capacity to respond and grow educationally, occupationally, recreationally and socially. The extent to which impaired vision impedes light stimuli from reaching the brain and the extent to which best correction or other necessary treatment removes this impediment directly determines such ability of the individual to respond and grow. For instance, a central visual acuity of 20/50 in the better eye means a loss of 25 percent of normal central vision. A similar acuity, 20/160--not considered legally blind--permits the individual only 30 percent of normal central vision. Thus, it would seem that statistics are urgently needed to determine the percentage of central vision possessed by our non-legally blind population and its relationship to ability to adjust to live situations.

An undertaking to obtain such data is difficult due to a number of reasons. Defective vision is fairly common. Many people fail to realize that their uncorrected vision is not normal, or if corrected, that their correction needs periodic adjustment. Many people, particularly those without best correction, make some adjustment to it. They may learn to live with their disability, not realizing the extent to which their potential for more effective living and learning has been impaired.

A recent National Health Examination Survey[4] of 6,672 persons among the adult, civilian, non-institutionalized U.S. population, aged 18-79 years, measured binocular visual acuity for distance. On the basis of this survey, projections to the United States population were made and it was estimated that, in this age group, some 40 percent were partially sighted with uncorrected visual acuity between 20/30 and 20/100 inclusive, which the present paper defines as decreased distance vision. Under usual correction, the proportion dropped to approximately 26 percent.

Although near vision is not a part of the definition of blindness, it is, of course, of great importance in our daily lives. In the survey just mentioned,[4] near vision examinations were also made of the same group. The results, projected to the country as a whole, indicated that, for uncorrected near vision, some 39 percent had acuity levels between 14/20 and 14/70 inclusive, defined in the present paper as decreased near vision. Under visual correction, this dropped to about 34 percent. In view of the fact that "usual" and not "best" correction was measured, percentages quoted are probably maximum figures. This would indicate that, apart from the legally blind, up to one-quarter of the adult population do not enjoy 20/20 distance vision with correction. For near vision, this proportion may be up to one-third of the population. The National Health Survey, as indicated above, was based on an examination of adults only. The sample examined is, of course, small and the projection to the population of adults for the whole country makes it subject to somewhat large sampling errors.

What is needed is a small number of pilot demonstration projects, uniformly planned and conducted, throughout the country. The cooperation of the local opthalmological, optometric, and medical societies should be enlisted to support the projects, as well as that of individual examiners to report their findings to a central register. Through adequate and continuing publicity and the offer of free examinations and services, the public of all ages should be invited to have their vision examined so that statistics on the distribution of distance and near vision and of needed services might be obtained for the whole community. Whether a partially sighted person wants services should have no bearing on his inclusion in the register of such persons. Service records alone cannot ordinarily be used as a source of information concerning the magnitude and nature of disease or impairment in a community.[1] Confidentiality must, of course, be pledged.

Data secured from such a project would give us some indication of the extent to which all prevalence rates for individuals with different degrees of visual acuity vary with age. From data reported there appears evidence that the prevalence rate of defective visual acuity increases with increasing age. As has been noted by many, an increase in rates with age is true for the legally blind (20/200, or worse).

Such a voluntary registration as has been indicated is now under way in the Egyptian project mentioned above. Projects as these, if the population cooperated whole-heartedly, would provide data by age, sex, race and other characteristics helpful in determining the population groups most at risk of developing visual deficiency. They would, no doubt, help to pick up incipient eye pathology for referral for opthalmological care and possibly lead to prevention and control of certain blinding disorders.

A recent Gallup poll for Research to Prevent Blindness, Inc. estimated that some three and one-half million people are affected with "serious" eye problems.[6] As a matter of fact, the estimate indicated that almost one out of every ten households in this country has a member with a "serious" eye problem. It is obvious that the way to prevent eye problems from becoming serious is through prevention and early treatment of eye disease.

The determination as to whether registers of the visually limited are worthwhile and feasible can be made after some experience with the problems involved in the operation and maintenance of the demonstration registers and with the value of the data produced over a period of time.

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THE COUNCIL FOR EXCEPTIONAL CHILDREN

Mrs. Kate C. Kern*

I come as spokesman from Maryland for the Council for Exceptional Children. Another confession I have to make is that I am a psychologist in a school system of 110,000 children. I suffer through some of the same polite confusion that optometrists and ophthamologists endure.

What is this CEC organization? Perhaps it is as new to you as specific aspects of your discipline are to me and without some background you could not be aware of the significant role CEC is playing in reaching children and adults with limited vision.

The Council for Exceptional Children is first of all a professional organization with a membership representing all disciplines but made up largely of special education teachers. In addition, there are speech, physical and occupational therapists, physicians, nurses, psychologists, school administrators, reading diagnosticians, social workers and teachers of blind and visually limited children. In some instances parents are members but in most states CEC is strictly a professional organization, unique in nature and goals.

CEC is constantly engaged in seeking more effective ways to promote the education of all exceptional children, both gifted and handicapped. Active cooperation with public and private agencies and organizations interested in the education of exceptional children is a constant CEC method of operation.

The official journal of the Council is called _Exceptional Children_. It is published 9 times a year. National membershop up to date totals 23,300 members representing all states, Canada and some foreign countries. There are 412 chapters, 36 state federations and 7 branches. Annual membership fee varies from $8.50 to $12.50 depending on the state, with student membership being $4.25. All memberships include the Journal. International, regional and special conventions are important parts of CEC's professional program. This year our international convention will be in Toronto, Canada in April.

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Now you may well ask--why all this background advertisement for CEC? How could such an organization affect you?

There is at least one division of CEC which will intrigue you. Of the 8 divisions within CEC, one is called CEPS--The Council for the Education of the Partially Seeing. Membership costs $1.00 for CEC members and this includes a Newsletter. Their statement of purposes is 1) to bring about a better understanding of educational and emotional problems which may be associated with partially seeing children, 2) to encourage the study of new ideas, practices and techniques and to disseminate this information among members of the group, and 3) to promote a closer social and professional relationship among teachers of the partially seeing.

It would seem to me that optometrists could well be specifically involved in this second purpose, that of encouraging the study of "new ideas, practices and techniques" not only in, for example, pre-school vision screening at the annual round-up prior to kindergarten placement in the fall but also as possible consultants to parents and teachers, working part of the team rather than in isolation, to further the educational development of partially seeing children.

Incidentally, before I finish, the conglomeration of terms related to those individuals with vision problems other than blindness may well get the best of me. Loss of visual skills, subnormal vision, partially sighted, visually limited, visually handicapped--whether we accent the positive or not, it would be beneficial to lay and professional people if one term could be utilized. Right now, in our county, "visually-limited" is "in" while "partially seeing" is "out". There seems to be no doubt but that the right label or combination of letters can mean the difference between parental acceptance or rejection of a child's special placement and/or the need for individualized teaching aids or resource rooms.

This brings me to the point of emphasizing that you, as vision consultants, need to be aware of terminology employed by your local private and public school systems: We don't talk a different language but frequently translations are in order! The kids don't differ but the label does and we haven't gotten away from labeling yet. Even being "normal" poses questions and concerns. You may get more attention if you're not!

This brings me to ask this question--quite unrelated--how many of you have ever visited the classroom or spoken to the teacher and/or itinerant instructor of one of your young patients? How many of you have observed the Snellen screening done by volunteers in the schools? How many of you have observed a classroom teacher as well as an itinerant teacher working with one of your visually limited patients? How many of you have appeared on PTA, CEC or community panels where vision was one of the concerns as related to reading? How can you "reach" visually limited people if you don't observe them outside your office?

The emphasis today in all related disciplines is on the "whole child". This concept includes the child's reaction to the total educational process since he spends 6 hours a day, 5 days a week, 9 months of the year in school. Asking "Mommie" how Junior is doing in school is hardly revealing or accurate.

Now about this Snellen Chart which I learned yesterday was born after the Civil War, not before. In a way, this is rather an insidious device for trapping teachers and parents into believing a child's vision is o.k. or "he needs glasses". The chart itself is not to blame although it is old enough to be retired--but rather the handling of the findings which are frequently checked off on a vision and hearing form as "negative"--whatever that means. If you find me somewhat alarmed by the popular use of the Snellen chart--it is with reason.

In the last 10 years I have been involved in numerous conferences with both parents (I emphasize the "both" for reasons other than that it still takes two) which have centered around children with learning problems serious enough to require the services of a psychologist. With rare exceptions, regardless of whether the child is 6 or 16, rich or poor, bright or retarded, he--and it usually is a boy--has not had a visual examination.

In fact, parents are surprised when I recommend such a procedure, saying that I believe every child should have a visual examination by the age of 6, when he is learning to read--I'm not saying "ready"--in order to rule out any correctable visual defect. You see, their child has already had an eye test "in school" and "there is nothing wrong with his eyes."

Or the opposite may occur as it did the other day. I made a home visit in the country to a deprived family where the father is chronically ill and the mother is struggling to care for 6 children, 4 of whom are already in classes for the mentally retarded. She said she had just received a long form to be filled out in detail so her 8 year old daughter could go to the Health Department Eye Clinic. She was more frightened of this complicated form and the glasses she was sure would follow than she was of the condition of her ill husband for whom a Medicare card was needed. This mother is not retarded, but the manner of handling this referral suggests that the whole system of reporting possible health problems to parents is sometimes being handled by robots rather than people--and I don't mean the public health nurses, who do a back-breaking job.

In our metropolitan area we would have less trouble persuading people to accept health services if there were more thought given to presenting what we want people to accept. Incidentally, when parents ask for the name of an eye doctor or any other kind of doctor, we are required to give at least three names. I name both ophthamologists and optometrists.

While I have this rare opportunity, I would like to share with you another concern with which you may or may not be familiar and that is the problems of the visually-limited, mentally retarded child and/or the physically and mentally handicapped or multi-handicapped child with a serious but not severe vision problem (i.e., not blindness).

First of all, the mentally retarded child with defective vision--there's a term I missed earlier--is likely to be wearing a halo supplied by his parents. The vision problem is accepted, sight-saving material is welcomed. The primary problem, as the parents see it, is that their child can't see very well. With visual aids he, they believe, will soon be close to grade level.

We see a parallel with parents who have a child with a severe language disorder or autistic behavior. As soon as he learns to "talk," he'll be o.k. Or again, if there is a vision problem accompanied by emotional disturbance, the former is accepted and discussed but not the latter. As you know, handicaps cannot be so neatly separated out nor can they be treated in isolation.

Teachers are aware of the multiple problems more than parents and sometimes more than family physicians who may be loathe to communicate what they suspect but prefer selecting out what is palatable to the parents. If we deal with false concepts, we will eventually be confronted with angry, hostile parents who will blame us. The child is the innocent victim.

In one of our counties our itinerant teachers for visually limited children have been being reluctant to provide instruction and/or visual aids to mentally retarded visually-limited children. The reason given has been that they have not been trained to instruct the mentally retarded. Undoubtedly, this is a legitimate reason but kind of tough on the kids. Don't all children have equal but not necessarily identical educational needs?

In conclusion, it would seem to me that better communication with agencies, organizations and school systems followed by a steady building up of community relations is needed to reach, to make aware of eligibility and to get acceptance of the services available for the visually limited from optometrists.

Mrs. Joyce Bromley of Knoxville, Tenn. is president of the Council Division for the Education of the Partially Seeing (CEPS). In corresponding with me concerning this paper, she wrote, "Your inquiry pinpoints a need for additional information in techniques of publicizing the services available for visually handicapped people. In the past we have relied upon the National Society for the Prevention of Blindness and the American Foundation for the Blind for their suggestions". So the very fact that I was invited to speak before this Association as a member of CEC has already paid dividends. I would like to suggest that you submit articles to Exceptional Children clarifying your role, especially as it relates to the educational process as well as to vocational rehabilitation.

I would also encourage you to present papers, and attend our national and/or regional conventions. You need to be seen as well as heard! Your fresh approach may well inspire teachers to look at the visually limited child with new insight.

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QUESTION DIRECTED TO MRS. KERN: In what ways can optometrists assist in working with exceptional children?

MRS. KERN: Since all we have time for is a capsule answer, I would say that optometrists (and by that I presume I mean the American Optometric Association) should move toward exceptional children being required to have a visual examination prior to their admittance to special classes.

While I have to speak about Montgomery County (Maryland), as this is the system with which I am associated, I suspect that our situation is not at all atypical. For special education placement we require a "physical" examination, administered either through the school physician or a private physician, as well as an individual psychological examination. However, we do not require a visual examination at all, unless the child manifests a visual handicap. I think this is one direction in which optometrists might seek extension of current health services.

Actually I think that a visual examination should be required of every school child, but maybe it would be politically expedient to try to start with the relatively smaller group of exceptional children.

Second, I would say that if you are going to deal with exceptional children, you must know the people who work with these children. Don't stay in your office! Get out and come to meetings where there will be the professional people who are working with exceptional students. They will then learn to know you and your interest in these children. Also, you will learn to know them and to appreciate some of their problems!

COMMUNICATIONS IN REACHING THE VISUALLY-LIMITED WORKER

Edmond J. Leonard*

Speaking on behalf of the President's Committee, I would like to first say a word of appreciation to the sponsors of this conference for the immensely important contribution they are making by focusing professional attention on, among other things, the vocational problems and solutions of visually handicapped persons. Defective vision, particularly when it goes unrecognized, can result in unemployment, but more often, in underemployment.

In seeking out those who stand to benefit by the services of optometrists, you are benefiting not only the visually-limited individuals, but through their greater potential for participation in their communities, you are helping them to be more productive, useful, and viable members of society.

The President's Committee, as you may know, is a vast network of organizations and individuals charged with making a deep social and economic impact on the employers of this nation by generating among them a favorable attitude toward handicapped workers. The Committee attempts to create a climate of acceptance for handicapped persons generally, but in particular, its primary educational and informational efforts are aimed at employers.

I mention this because it has relevance to the subject of this panel: How do you reach the specific group of visually-limited people who can benefit by what you have to offer?

This calls for analyzing that segment of the population with which you are trying to communicate. Basic to carrying out your program is the compilation of a list of the people you want to reach. For instance, the President's Committee wants to reach employers with its message, but we find that there are many sub-groups, all of whom are valuable recipients of, or in a position to transmit, our message. There are personnel managers, foremen, shop stewards, supervisors, middle management people, executives of large industries, and small enterpreneurs, manufacturers' associations, chambers of commerce, organized labor--all of whom can further the hire-the-handicapped program.

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Each is a separate entity, and each group must be dealt with separately. They are not tuned into a common channel of communication, so it becomes necessary to address each one separately.

An analysis of the sub-groups you are trying to reach may amaze you. Do you want to contact the teachers of school children, or children in special education classes? Should you try to get your message across to clergymen, counselors, medical and paramedical people, visiting nurses, social service workers? Think of the many resource persons who can act for you in reaching these visually-limited people, and it becomes obvious they do not speak a common language. It is just as apparent that you must deal with them separately.

A second basic question you must answer for yourselves is: What are you trying to say to these people once you reach them? Once you define your audience, what do you tell them? There should be a clear-cut objective in mind for any mass communications effort, and you should stick to that objective. How many times, if you can benefit from some of our past mistakes, have we been detoured or side-tracked by some peripheral project that gnawed away at our energies and time with no obvious benefit to our primary goal.

Some years ago we were side-tracked into sponsoring a national art contest for the handicapped. For the better part of a year this project clamored for almost exclusive control of our staff time. We received some remarkable paintaings from all over the country--enough to nearly force us out of our offices and into the corridors--but just what did all this spectacular effort avail us? It was not clearly evident to employers that being a good painter was synonymous with being a good employee.

The point is: Have a high priority for what you are trying to do or say, and let everything lead to that objective without being deterred from your target.

It may, for instance, be tempting to bombard editors or Hollywood producers with protests about the habit of stereotyping people who wear glasses. In movies and television the leading man never rides off into the sunset with the plain Jane who wears bifocals--never, that is, until her glasses are accidentally crushed in the ground and he discovers for the first time that she's not too bad to look at after all.

But lobbying against such entrenched notions can drain your resources, and lead to questionable results. If you want to encourage people to have visual examinations, stick to that objective and pour all your energies in that direction without wavering toward tempting tangents.

Another basic question you must answer is: What media should you use to reach these people? In many instances, it is felt that a good approach is to knock out a press release and then sit back with folded arms. Or, many persons with a program like to engage in that favority occupation--turning out pamphlets. Again it becomes necessary to make a careful analysis of all available media, and determine how they reach the groups you want to reach.

Do you want to reach special educators? Perhaps the best way is to include your message in the journals they are likely to read. Or perhaps it may be more valuable to try to obtain a spot on the program of their conventions.

Perhaps the mass media should be shunned in favor of more specialized types. Don't turn impulsively to the big game--Life, Look, NBC, CBS. It probably can't be done, and the results will not warrant the effort. Use media as a tool for reaching groups, but be modest in your aspirations. Don't expect too much, and don't be disappointed.

If you want to convince parents that their children should have yearly examinations, who says a pamphlet is the right means for telling them? Perhaps it is,perhaps not. Maybe the neighborhood shopping newspaper will get a bigger reading audience.

With a program having a certain amount of social appeal, radio and television broadcasters will give you donated time, but don't expect many people to hear you. It probably won't be prime time. This is an inevitable economic fact that must be faced.

Quite regularly the President's Committee receives individual reports from radio and television stations, showing how many of our public service spot announcements were aired. Over the course of a year we shuffle these around and come up with an estimate that the nation's broadcasters contributed one million or two million dollars worth of donated time to the employ-the-handicapped program. Of course, we are deeply grateful for their generosity, but at the same time we realize that our message was not in contention for the top Neilson rating.

Finally, a decision will have to be made concerning the content of your message. What will you say? There is so much competition for the attention of the public that your entire message will probably not be heard. Therefore, it is important, as in any campaign, to have an effective slogan, so that at least this much comes through loud and clear. This slogan should accurately telescope, within a few words, your entire message.

Over the years the President's Committee has met with success in the use of the slogan, "It's good business to hire the handicapped". There really are solid economic advantages for an employer to include handicapped workers on his payroll--they are efficient, conscientious, productive, reliable, safe, steady, and loyal employees. All of these add up to good personnel practices, and take away the element of charity and sympathy which is not always appealing in the hard-nosed business world. Our slogan sums up the appeal and impression we want to leave with employers.

Another essential part of mass education is time. Do not expect overnight results. Just when you yourself are getting sick and tired of the repetition of your words, you can begin to assume that your message is catching on. Commercial products in intensive promotional drives are repeated for years before they become household names. One mouthwash campaign has had the same advertising appeal for 20 years; a soap campaign has been going on for 50 years. If it takes commercial interests that long, how long will it take a public service message to make an imprint on the public conscience?

These are merely some basic and elementary considerations involved in the problem of reaching the people who can benefit by your services. But with proper planning, these people can be reached. For their own good, and the good of their communities, they should be reached.

Washington, D.C. 20210

DECENTRALIZING LOW VISION CARE

Edwin B. Mehr*

I am going to take a slightly different approach to this problem of, "How do we reach our visually-limited people?"

The title of my paper is "Decentralizing Low Vision Care." Obviously, this is contrary to some of the things that have been said previously in this conference. That is fine, nobody expects everyone to agree.

Yesterday morning on the first panel, Wallace Watkins, of Goodwill Industries, asked: "What are we doing for the visually handicapped in Chilicotti?" I don't even know where Chilicotti is. I don't even know if I'm pronouncing it correctly; but he did raise a very real problem. There are a lot of people outside of the big cities, who need this kind of help and they need it in their own communities, and this, I think, is some of the answer to reaching these people where they are.

While repeated studies have shown that low vision clinics can and do successfully help approximately 70 percent of their patients with optical aids, a point that has received less emphasis is that multiple visits are needed to achieve this result. For example, the Industrial Home for the Blind in their pioneer study reported 68 percent of their 500 patients had been successfully fitted with aids but also that the overall average number of visits per patient was 4 and when an aid was fitted it was 5. Some patients made as many as 10 visits to the clinic. Parenthetically, optometry is handicapped by our typical success ratio. We do not consider 68 percent a good enough average!

Transportation,for the low-vision patient, is often a problem. Typically, he cannot drive a car and is handicapped in getting about in strange areas, far from home. Often, he has very limited financial resources which also makes repeated trips to, or long stays at, distant places an impossibility for him. Dr. Heller, our visitor from the Veterans Administration, raised the same point. Even if he can manage a trip, he is unsure that this type of care will benefit him. Unfortunately, advice from his local doctor, who is not engaged in fitting low vision aids, is too often either negative or discouraging. If the low vision center is remote, he finds it difficult to consult with them to discover their opinion of his suitability as a patient.

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*O.D., Chairman, Committee on Aid to the Partially-Sighted, California Optometric Association.

One of the advantages that optometrists enjoy in caring for the visual needs of America is their dispersion throughout the land in smaller communities, as well as large ones. All of them have been exposed to some ideas, and most of them to instruction in optometry schools, on examining and prescribing for the visually-limited patient.

While this should offer an opportunity for decentralized service to the patients, in actual practice its effect is often not such. The average optometrist or ophthalmologist feels that he does not have the special equipment or techniques needed for this type of patient. If he has made any attempts at low vision care he has had a few spectacular failures, which he remembers much better than his feeble successes. Realistically, he does not feel that he will ever recover in fees the substantial investment in special equipment needed adequately to care for the few low vision patients he may see in a year's time.

Oklahoma and California have evolved plans to convert optometric offices into low vision care offices when required in order to spread good low vision care beyond the big city clinics. The salient features of the plans are: 1) a panel of well-trained optometrists in the low vision field, preferably with geographical scatter. 2) Mobile testing and demonstration units that can convert any modern optometric office into a low vision office. 3) Information on sources, powers, cost, etc. of various aids not usually available from conventional optometric laboratories. 4) Education of optometrists and the general public about the availability of these services.

The Santa Clara County (California) plan is the one I am most familiar with, having been intimately connected with it from its conception in 1961 to the present. Under the formidable title of the Santa Clara County Panel for the Optometric Rehabilitation of the Partially Sighted, are listed those members of the Santa Clara County Optometric Society who wished to take care of this type of patient. They also had to take special post-graduate training and share in the cost of the kit of special equipment.

A series of seminars was held covering both theory and practice and including demonstration clinics. A total of eighteen hours of seminars were given by Dr. Allan Freid and myself. We hold with Dr. Hellinger and the Industrial Home for the Blind that technique of examination and training are more important than the use of special devices.

A mobile collection of equipment was assembled and a large carrying case (resembling a large suitcase) constructed to carry it. In this mobile unit are included special charts, test cards, lenses and other devices not normally found in the average optometric office. The contents were assembled with the idea of being able to test almost any type of partially sighted patient, and to demonstrate the appearance of the finished device. There was to be as little duplication as possible.

Necessary items usually found in optometric offices such as a trial frame and trial lens sets, ophthalmoscope and biomicroscope are not included. More unusual equipment, such as large print distance test charts and reading cards, telescopic and microscopic spectacles, illuminated magnifiers, binocular loupes, and a 1.00D Jackson cross-cylinder are in the mobile unit. A complete list of the contents may be found in the Oct. - Nov. 1964 issue of the Journal of the California Optometric Association.

By assembling this mobile unit, over $700.00 worth of equipment was made available at a cost to each individual of $27.50.

Included in the unit is a large binder containing catalogs showing the availability, specifications and cost of a great variety of aids. Also there are special reference books and bibliographies. The mobile unit is transported in its entirety to the office of the doctor requesting it who can keep it for one week.

There are, at present, 25 members of the panel in 11 cities in the County. This public service project aroused interest on the part of the press and T.V. Their coverage resulted in many inquiries to the society and referrals of patients to members of the panel. The members of the panel now offer help to partially-sighted patients in their own offices. These are in many instances patients from their own practices whom they would have felt were hopeless in the past. Other optometrists as well as the general public have heard of this program and refer patients to panel members.

A two year review based on a questionnaire sent to panel members revealed that 67 percent of the low vision patients of the panel members had obtained a useful increase in vision by the use of low vision aids. This is consistent with figures obtained in large clinics.

To summarize: Decentralized low vision care is made possible by training panels of optometrists and providing them with mobile testing units.

The advantages of decentralizing are:

1) The service is brought closer to the patient.

2) This makes possible more thorough care through more visits and more frequent follow-up.

3) A larger number of optometrists are alerted to the possibilities of helping the partially sighted.

4) More information is spread at the home town level and potential patients are reached.

5) The local optometrist is in a better position to know, talk to, and enlist the aid of teachers, social workers, psychologists, pediatricians, general practitioners, school nurses, and any others whose help may be required for a particular patient.

1240 Scott Boulevard
Santa Clara, California 95050

QUESTION DIRECTED TO DR. MEHR: Is the AOA Committee or the Santa Clara Group disseminating any information to the optometric profession, generally, concerning their program?

DR. MEHR: A two year study was written up in a special issue of the Journal of the California Optometric Association, October-November, 1964. The largest extant number of copies, that I know of, are in the Library of Congress. They just arrived there a few days ago.

I don't think there are many others left anywhere, except individual offices. If you want a copy of that issue it is the October-November, 1964, Journal of the California Optometric Association, and I think Mr. Hagle at the Library of Congress, Division for the Blind is the man to write to, and he will, I am sure, be glad to send you a copy.

That is what is in print as of the moment. The rest is in my head. I have been assigned the project of writing this up and I think AOA plans to issue it as a pamphlet. When I stop talking and sit down and start writing, one of these days, you may get it.

REACHING AND SERVING VISUALLY-LIMITED CHILDREN

J. William Oberman*

In discussing the subject of reaching our visually-limited people, I will confine my comments to children. I am, after all, a member of the Children's Bureau. We don't have the faintest idea of whom we are talking. All we have is some general idea of the number of children and of the fact that they are increasing at a very rapid rate.

The 1963 census data show 36 percent or 69 million of the population of the United States is under 18. By 1975, it is estimated that this will be 75 million. This is a staggering number.

In 1960, there were 20 million children under 5 years of age. I have heard it stated here, and I certainly believe, we must move to meet the vision needs of this group before the children reach school.

There has been another trend, particularly in relation to the partially sighted, to which I would like to call your attention. We are getting better at salvaging babies, and we are paying a higher price for it. We are saving babies that heretofore would have died. Many of these babies are perfectly normal, but many of them are not. We have many more children who have survived, but who have survived with handicaps from a very wide variety of causes, and we have some figures on that.

You may be familiar with these. In a fairly recent publication there appeared an analysis of causes of blindness (and whenever we speak of blindness, we speak of the partially-sighted too). The cases of blindness due to prenatal factors increased 44 percent over a four-year period, 1954 to 1955, 1958 to 1959. I think that this trend will continue for at least two very pertinent reasons.

One is the nation-wide rubella epidemic that we have just gone through. We are identifying affected babies much earlier (many of these are blind) and we have been able to identify a wider spectrum of handicaps. We are going to discover a number who are not going to die, a number who are not going to be very seriously handicapped, but we are going to have some cases who will be moderately or severely handicapped and you know visual defects will be a very important aspect of the latter. We are getting a little more sophisticated in identifying these children and have to be prepared to do something about it.

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*M.D., Pediatric Consultant, Division of Health Services, Children's Bureau, U.S. Department of Health, Education and Welfare.

Well, as you also know, the disadvantaged socio-economic persons are very much in the news these days. There are a number (I might say a "bewildering" number) of programs available to them on the governmental level. In fact, some government agencies go through some "inter-agencies" squabbling as to which agency shall serve which person.

Now, the poor person is popular but it is also true that the incidence of eye defects in his children is much greater. In one study, blindness and visual impairment accounted for 12.4 percent of chronic conditions reported for families making under 2 thousand dollars per year, whereas these same conditions occurred in only 6.4 percent of those with an income of 7 thousand dollars a year and over. This is approximately twice, and is actual evidence to show that people of lower social economic status do have a higher incidence of visual defects. We might also add there would be a quite real possibility that the visual defects would be more severe because, if there is anybody who doesn't get the medical care that they need, it is in this group.

Well, I am not going to go into things like our lack of information on which constitutes an adequate screening program and how many children are not being screened. I don't think that you have this information either. I think that we would just have to continue to make efforts in this direction.

There is one thing that I want to stress--and I am sure that you would all agree--screening efforts must occur early in life. You all know the irreversible effects that can occur from amblyopia in pre-school children.

Well, what could we do when we find these cases, and I think this partially-sighted group is the important group, as this conference has brought it out. The blind, at least, we have a reasonable chance of finding. Minimal visual defects we should very much like to find too for reasons which are self-evident.

It is this minimal group which, I have a feeling, is most largely missed, and yet is very much in need of our services. I would only make one point, and that is that affection in this middle group is very likely to lead to a less severe condition, which would, in effect, cause blindness in so many from a "poorer" group. That is, the causes are still the same as before but the less severely disadvantaged socioeconomic group has been less severely visually affected.

In Columbus, they surveyed a large number of people, studying particularly children in the fourth, fifth and sixth grade. Thirty-six were identified as partially seeing by an ophthalomologist and by an optometrist, but would you listen to the secondary diagnoses in this group: Minimul neurological handicapped, emotional problems; primary myopic condition (which could not be corrected to better than 20/70); epilepsy, microcephalia, abnormally slow physically, agile mentally retarded! Obviously, this partially-sighted group, of all groups that we can identify, really needs a thorough going over by quite a large number of people.

No matter who sees this child first, he has an obligation to check him out and, as was brought out very ably by Mrs. Kern, these children are not a province of a single discipline.

I will close with describing a couple of Children's Bureau programs in which I think you might be interested. You are probably well aware of the crippled children's program in the various states. These vary widely in the kind of conditions they accept and the number of children involved. Let me say that this is a resource available for correction of refractive errors in 16 states and for care for 27 other visual disorders in 31 states. This, however, is really just a drop in the budget, due to lack of funds. Also, in fund designation, other crippling conditions are viewed as being more important. I don't necessarily agree with that, but they were just "there first"

However, I would like to acquaint you with another problem in our legislature, which I think you should know about. This was briefly talked about by Miss Butts last night in her speaking of her program of welfare administration. These are the first programs she described to you last night; special health project grants. These are grants which are made to various states and local health agencies, to medical schools and their teaching hospitals to provide comprehensive health care for pre-school children and children of school age, particularly in areas of concentration of low income families--the groups that really need it the most.

These projects will provide screening, diagnostic and preventive services for all children, correction of defects and after-care, including dental services for children with low income families who not otherwise receive treatment. This is a really comprehensive care program. Sometimes I get a little upset because probably not available to me are the kind of services that these projects will provide.

However, this is a wonderful opportunity to really get out and dig for cases which we haven't turned up and provide the kind of care we need. We really look forward to the beginning of these projects with an enormous amount of interest generated all over the country and we all are very excited about it, and I hope that on the local level you will try to identify your profession with these services.

HEW Building 4414
Washington, D. C.

REACHING OUR VISUALLY-LIMITED PEOPLE

Caroline Austin*

There have been many many things said today that are of vital concern to you in your work, to us in the field of public health, and to education. Having taught school for almost a hundred years before I started working in a public health agency, I feel that there are many implications from an educational point of view, and a public health point of view that very often we miss because we get so wrapped up and involved in putting our sights on one specific problem.

I would like first to mention something that Dr. Oberman spoke of and that is the multiply-handicapped child. Too often we categorize these children, put them in a specific group and then handle them according to that particular difficulty, forgetting about the other problems involved more and more as we work with these children we find that there is vision involvement in a large percentage of them who are in any of the programs of special education. I like to think that the term visually limited means not just the serious visually limited, but any person who can't function adequately because of some impairment in his visual process. I think this has been brought home to me even more thoroughly in a recent experience I had in dealing with perceptually handicapped children, or children who have been labeled "perceptually-handicapped". It was a tremendous experience. We are doing a special study to try to determine if there was a pattern that these children showed in hearing loss or in visual shortcomings. You might be interested to know that it was apparent that many of these children showed vision problems.

This leads right into the need for better screening. I am not necessarily advocating including more things to screen for, but for better screening with whatever method is used. I think we have been inclined to sell vision screening down the river, considering it is something that anybody can do. In fact, I even heard one school superintendent say, "We could just go out on the street and bring in the first person we see to do the vision screening". Sometimes it almost appears as if this has been done. The methods that are used are entirely dependent upon skill, knowledge, and ability to work with children of the person using the instrument, the Snellen chart, or whatever method is being used.

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*M.A., Vision Coordinator, Division of Preventive Medicine, Illinois Department of Public Health.

I can't plead too strongly in public health for better use of instruments. We must have screening instruments that will find as many children as possible that will go as far as we dare go in referring children for definitive diagnosis and treatment and yet maintain parental respect. This can only be done by skilled use of these instruments.

In other words, we have a commodity to sell. What will the public buy? This is the main thing we have to keep in mind in dealing with screening programs from a public health point of view. I think one of our biggest problems in dealing with this from a public health area and probably from yours also, is that what people want is a package all tied up with a blue ribbon around it. They are a little bit hesitant to look at all the aspects in the different angles of any program as to what is usable and what is not. Our efforts in a community must be to help them be selective in order to do the most good.

I think one of the prime examples of this has been the Delacato method which has swept the country like wildfire. Nobody has bothered in any real significant way to ferret out the good or bad or what is usable or what is not applicable to our situation. Few have questioned the methods used. Because it is written down in a book, is it reliable? Or are there other factors involved? It is a package "guaranteed" to produce and for that reason it has gone like wildfire throughout the country, unfortunately, from my point of view.

Changing completely to another problem: I would like to mention the lack of personnel to assist local people in developing sound vision programs. This is a very serious matter in the United States and I think in this meeting this fact has become even more evident. Right now on my staff we have two positions open. They call for a Masters Degree in Education, and requires experience in working with or teaching the blind or partially sighted or with some experience working in a public health vision program. These jobs carry good salaries. We often think of some of these government positions as not paying well, but we can match most of the teaching salaries in special education which are pretty high at present in most parts of the country. If we get anyone to fill these positions we will probably rob some school system of a teacher or administrator.

Why is it that we don't have many people going into teaching of the blind and partially sighted? I think there is one very major reason for it and that is that the teaching of the partially-sighted child or the blind child has never become quite socially acceptable. It does not seem to have the glamor that some of the other areas of special education for young people. We are going to have to sell young people on the idea of the service, and even the romance, of working with children in this area. Goodness only knows the need is there. Why are talking in terms of this kind of person for public health positions? Because it is more evident all the time that we must conserve our highly trained manpower, such as we have in the optometric profession and ophthalmologic profession or in any field of medicine. We must conserve our people for the area of definitive diagnosis and treatment and if we are going to do that we must bring in the auxiliary people, who are well trained, qualified and respected. This profession is a profession of its own with special training far different than training in optometry or even classroom teaching.

This problem of helping to locate and assisting people in a given community in the area of working with and for people that have vision problems, whether it be a minor problem or a severe problem such as some of those we have had called to our attention during this two-day institute is challenging, rewarding, and we need more people to do it.

Springfield, Illinois 62706

QUESTION DIRECTED TO DR. GOLDSTEIN: Is the number of visually-limited people on the increase?

DR. GOLDSTEIN: In our Model Reporting Area operation we get data only on the legally blind. They are on the increase for a number of reasons.

The population is aging. This means that many more people are reaching those age brackets where certain chronic and debilitating diseases are common. We can only expect more and more blinding conditions in the future. It seems to me that if this be true as far as the legally blind are concerned, it would also be applicable to the partially sighted or visually limited. There is certainly convincing evidence from many sources that the prevalence of partial sight also increases with age, and again, since the population is aging, we can expect more of it.

QUESTION DIRECTED TO DR. GOLDSTEIN: Is your Egyptian study relevant to the United States?

DR. GOLDSTEIN: The Egyptian study has two main objectives:

1. If we were able to set up in another country the standards of securing data on prevalence that we use in the Model Reporting Area for Blindness Statistics, how would the data compare?

We were able to do this using the same definition of blindness, the same classification of causes, and the same type of data being collected here. Thus, we have been able to make some preliminary comparisons.

I might say that preliminary data shows the urban area prevalence of blindness in Egypt, the "land of the blind," to be seven times that of our country, in the rural areas it is 22 times that of our country.

2. What could be learned from this study that could be used in our country or in other developing countries?

We have learned how to use vision screening equipment in a house-to-house survey. It is, to my knowledge, the first use of machine screening equipment in a house-to-house sample survey, the first use of field perimetry in a house-to-house survey, and the first use of refraction to secure best correction right in the home. Attempts are made to examine everyone in the household. These attempts have been most successful.

A ten percent sample of those screened as non-blind by definition are retested in an attempt to determine false negatives, i.e., how many blind persons are not being picked up by the screening procedures. To date, not a single false negative has been discovered.

We have discovered a fair percentage of false positives, i.e., over-referrals of persons suspected of being blind to the ophthalmologist for reexamination. These over-referrals seem to indicate that the vision testers, in borderline cases are inclined, and rightly so, to leave the final assessment of blindness to the ophthalmologists.

We have set up periodic assessments of the reliability of vision testers and ophthalmologists. This, to my knowledge, has never been done before. For instance, the same non-blind individuals are retested with vision screening equipment by different vision screening personnel independently to see how the results agree. The same blind individuals are diagnosed by a number of ophthalmologists independently to determine the degree of agreement. These are periodic checks and will continue as long as the survey goes on.

After one year in Egypt, we are already getting some tangible benefits that, I am sure, will be of benefit to this country.

QUESTION DIRECTED TO DR. GOLDSTEIN AND CAROLINE AUSTIN: In the field of research is there a recognition of the importance of the longitudinal studies involving Allied Health Care Discipline?

DR. GOLDSTEIN: At present, NINDB has underway the so-called Collaborative Project, a long-term study of some 50,000 pregnant women and follow-up of the resulting offspring for six years. Of course, this study should give information on multiple handicaps and other diseases that affect the children and should be able to relate such handicaps and diseases to perinatal factors.

CAROLINE AUSTIN: I think there are several points of view which are justifiable. This is probably an extremely important area for consideration at the present time. I am sure we need to find the children as far as screening is concerned, but also we need to have total examinations available.

I had on my priorities list of activities an attempt to try to secure funds which are available, or have been available, to state health departments to conduct research and studies in this area. Because of some unforeseen circumstances, I was not able to put this into effect because of lack of time to write up the study, thus making the money available.

I think there should be money available for such a study which we could apply both in the screening of children, beginning in the pre-school years and in carrying on with those seen in this study of mothers following their children in the first six years. If we could then take those children or a similar group of children on through until they are in their teens, we really would have a great thing that is very vital to us.

I think this extremely important in the area of case finding. I would like to emphasize the need for these registers, which has been pointed up as another way of getting better material.

One of our biggest problems in getting registers set up is the type of birth certificates that are used in most states. This is the place we need to start--to get a birth certificate that will give a little more definite information regarding the child and his known problems at birth. It would be a very valuable contribution to follow these children through to adulthood, and it can be done.

PANEL 5

"Planning for the Future"

Afternoon Session, March 25, 1966

Panel Chairman - ALFRED A. ROSENBLOOM, O. D.,
Dean, Illinois College of Optometry

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PAPERS PRESENTED BY

Morton Davis, O.D.,	Committee on Administration Agencies, American Optometric Association.
Gertrude Hunter,	M.D., Medical Specialist for Head Start Project, U.S. Office of Economic Opportunity.
Robert J. Teare,	Ph.D., Senior Research Scientist, Human Sciences Research, Incorporated.
John K. Dupress,	Managing Director, Sensory Aids Center, Massachusetts Institute of Technology.

RESOURCE PANELISTS

Joseph Meyers,	Deputy Director, Welfare Administration, U.S. Department of Health, Education and Welfare.
Lee Holder,	Director, Community Action Studies Project, National Commission on Community Health Services.
J. F. Follman, Jr.,	Director of Information and Research, Health Insurance Association of America.

CLINICAL OPTOMETRY LOOKS AHEAD

Morton Davis*

The greatest single advance in the clinical care of the visually limited will come when the two most interested professions resolve their differences. They must realize that good care for the visually limited requires both professions working as a team with the other professionals involved. Each member must respect the unique contribution of the other member.

We have heard at this meeting what many of the other professions can contribute. We all agree that ophthalmology is an indispensable member to the team. Their unique role is the treatment of the pathology, injury, or birth defect that brought about the limitation of vision in the beginning. However, once the pathological processes have been stayed, there are many techniques which can help the patients make the most of their residual vision. These techniques have been developed by optometry and are our unique contributions to the care of the visually limited.

I would like to discuss some of these techniques, as they are unique and indispensable. Dr. Wisman has already discussed training, so I will keep my remarks on that point brief. I do want to point out that the specialists in physical medicine are now doing the same type of training for other handicaps that we have been recommending for the visually limited.

The first job of the optometrist is to provide the conventional lenses which give maximum far-point visual acuity. If the cornea is scarred it may take a contact lens to neutralize the uneven refractive surface to get a clear image.

The second step is to determine if enlarging the image would be of any help. When only small objects like print are distorted, a magnifier in the form of a telescopic or microscopic lens may enlarge the image enough so that the distortion is not as significant.

When we change the magnification of the image we also change the person's perspective of things around him. Objects look larger, so they are generally judged as being closer. Before we can be sure a person can wear his magnifiers satisfactorily, we must be sure he can adapt to this new perspective.

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*O.D., Member, Committee on Administrative Agencies, American Optometric Association.

Magnifiers for reading generally require the patient to hold the print close to his eyes because of the short focal range. The patient, therefore, must be taught how to control the illumination so that his own head does not block out all of the light.

There are distortions which cannot be eliminated by enlarging the image. Parts of the image may be missing due to different types of retinal degenerations, or there may be the possibility of many different opacities in the optical media of the eye. Under these circumstances the patient may not be able to get an entire form in view at one time. The patient learns to segment. This is illustrated by a person seeing one line of the letter "A". He will then try to follow the line to get the entire image.

To be able to do this with any efficiency, the individual needs very good control of the movement of the eye. In the adult with good sight, a primary function of these muscles is to feed back information as to where the perceived object is in relation to himself. One reason I know when a gentleman is sitting over here instead of on my other side is because my muscles tell me to which side my eyes are turned.

With a young child or a person with some visual handicaps, these muscles tell where parts of an image are located so that they may be mentally combined in their proper order. Research on this phase of development has been done by Zaporozhets, et. al. With this in mind, it is easy to see how training eye movements can bring about more efficient vision.

Dr. Wisman talked about gross motor training earlier. I would like to explain how this contributes to the improvement of visual performance. At one time, I had the opportunity of doing human factor reports for an engineering concern working on space projects. The astronauts had what were termed "high I.Q. retinae". They reported that they could see objects which were, based upon our knowledge of retinal structure and function, theoretically impossible for them to see.

To illustrate where some of this information must come from, I would like to tell you about an experience of Scott Carpenter. He reported that his chart of the heavens was reversed. What he did not realize was that he had let his capsule roll until he was upside down in relationship to earth. The lack of gravity was not giving him information relating to the direction in the vertical. Since he was literally head down, everything was reversed. This is just one example of the type of information contributing to our visual discriminations.

To use the parlance of the space program, the optometrist is trying to fit devices and use training to get "high I.Q. retinae" for the visually limited so they may receive more information than they do from distorted visual cues. We are primarily interested in the patient's "information retrieval" system.

I was also going to discuss the importance of continued follow-up for the visually limited, but Dr. Hunter said she will cover this in her talk. Instead, I will go on to the future.

None of us can accurately say what the future will be. In professions we get a clue because the clinical procedures of tomorrow are the research projects of today. I hope by discussing some of the research of which I am aware, we can get a clue to what future optometric care may become.

One of the most important studies in the field of low vision is one conducted by Natalie Barraga. She trained form perception of low-vision children in the Texas school system. She found that she could improve, with training, what these children were seeing. This is very important in several ways.

It means that we cannot even accept the child's visual acuity as a fixed finding. We should not put a child on Braille until we are sure his vision cannot be improved to the extent of handling print. It opens up the concept that "without normal reflexes we cannot expect the child with residual sight to develop his vision anywhere near its capability". Therefore, we can predict that care of these children will change like the care of the orthopedic child did after Sister Kenney discovered physical therapy.

Harold Haynes is doing studies on visual development in infants. Studies along this line are taking place all across the country. Those with which I am most familiar are being done at the National Institutes of Health and the Behavioral Research Institute.

At the Christ Church Child Center in Bethesda, a study is taking place to determine the value of using teaching machines to teach form perception to the perceptually handicapped child. The Reverend Schuetze, who gave the invocation yesterday, is the pastor of the church that sponsors the Christ Church Child Center.

You have heard new and imaginative sensing devices described, designed to supplement visual stimuli with auditory and/or tactile clues. It was discussed yesterday how these devices can be used to help with reading. Research is being done to see if these devices can also be worn to help with mobility.

Dr. Sloan mentioned the use of a red contact lens and what it can do. The use of color in changing the environment for the person with chromatic difficulties is another interesting area.

One imaginative study being proposed is the use of a specially devised harness to make congenitally visually-handicapped infants more aware. The rationale is that if the child has a defect, his threshold for that sense will be high; that is, there will be a deprivation in that sense modality. Any deprivation affects the development of that phase of the infant's behavioral skills.

The proposed project is to develop a harness that would be very flexible and fit an infant without restricting his movements. There would be a light and a sound source at each of the child's extremities. The light and sound combination should make the child more aware of his body parts and help him stimulate himself at an earlier age. This should help reduce some of the retardation that is secondary to congenital visual defects.

The project with which I am most familiar is the development of Visual Braille. "Visual Braille" is an alphabet with the letters designed to have forms minimizing confusion to a visually-limited person.

I mentioned earlier how some visually-limited people segment a letter when trying to read. In some of our research we found many of these people would become confused when they came to two lines that branch off, one from the other; they would not know which branch to take. Ordinarily, people would have a view of the whole letter, but with a visually-limited person, parts of the letter would be missing. Under the latter conditions, an "O" can become a "C" or a "U", etc.

We decided to design an alphabet with a minimum amount of forks and gaps. In doing a search of the literature, we found many alphabets had been designed with similar criteria in mind. The Moon Alphabet is still being used to publish material in England. Most of these alphabets fell into disuse when Braille became internationally standardized.

One of the unique qualities of Visual Braille is that the general form of the letter is the same as the pattern of the dots in Braille. We just connected the dots in such a way as to produce no forked lines and as few gaps as possible.

From our pilot studies we have found that the simpler the visual form, the easier it is for a child to learn. We found elementary school children with good sight could learn this alphabet faster than other alphabet forms, such as the Morse Code.

Any person who knows Braille and has adequate sight could read Visual Braille in a matter of minutes. Visual Braille seems to be a good method of teaching sighted people the Braille forms. There are sighted people who apparently have trouble getting the segments or dots together in order to remember the letter forms. When the dots are connected, one apparently has much less difficulty committing the form to memory. People can then read the dots with less trouble.

At the suggestion of John Jones, we tried Visual Braille on retarded children. These children had had trouble recognizing the regular alphabet. We made cards with likes and differences on them. A typical example would be one card with four "A's" and one "B" in Visual Braille. There would be a corresponding card with capital block letters in the same order. The children were instructed to pick out the different letter. They all did better on Visual Braille.

Going back to other research projects, I would like to mention that I agree with what Mr. Gallozzi said this morning. What we need is a Visual Efficiency score to replace the old Snellen acuity score. Leo Manas of Illinois College of Optometry, has been working on such a scale and has printed a scoring sheet.

I only hope that if a visual efficiency score is developed, people will accept it as a measure of what the person can see at that time. We have no tests to measure a person's undeveloped abilities.

An example of what harm a score can do is best illustrated by a young boy who was brought in for a check-up. He was being taught only in Braille because of his poor visual acuity. We noticed the boy appeared to be studying the titles of some books on a shelf. When we questioned him, we found that he had taught himself to read visually. He didn't want anyone to know because, according to his acuity score, he was only supposed to work in Braille.

I realize the visual efficiency score is meant to eliminate that sort of injustice. I just want to call this to your attention so that one injustice is not replaced with another.

With all of these frontiers being opened up by research, there is reason to believe the team approach will be able to do for the visually limited what physical therapy did for the polio victim.

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PROGRAMS OF THE OFFICE OF ECONOMIC OPPORTUNITY

Gertrude Teixeira Hunter*

Thank you, I am very pleased to have been invited to address the group this afternoon and when I was trying to plan what I would talk about, I thought I should include not just discussion of Head Start, but the many ramifications and needs for health services in the other Office of Economic Opportunity Programs.

The War on Poverty came into being very rapidly. It was conceived in 1964, and it was activated within a few months time. The Office of Economic Opportunity has many programs directed toward alleviating poverty.

The Job Corps, a major youth program in the President's War on Poverty, provides the basic education and work skill training to make employable out-of-school and out-of-work young men and women 16 through 21. These youth receive a monthly living allowance, medical and dental care, room and board, work clothing and a modest allowance for dress clothing and $50 for each month of satisfactory service. From this $50, enrollees may allot up to $25 a month for dependents or parents. This sum, in turn, is matched by the government.

The Job Corps marshalled the resources of the business community, universities, agencies concerned with conserving natural resources and others to create this unique residential, educational program. It offers individual tutoring and counseling, both formal and informal, day and night.

Vista Volunteers, Volunteers in Service to America, provide an opportunity for those 18 and over to join the War on Poverty. Volunteers will work with migrant laborers, on Indian reservations in urban and rural community action programs, in slum areas, hospitals, schools and in institutions for mentally ill and retarded. The period of service is one year. Volunteers will receive a living allowance and $50 a month. Plans call for 5,000 Vista Volunteers.

There are lawyers, mechanics, students, housewives, physicians, carpenters, teachers, farmers, nurses, business executives, social workers and retired military men. Also, a growing number of Volunteers are coming directly from the ranks of the poor, bringing with them a profound, hard-won knowledge of poverty and a commitment born of personal struggle. Volunteers go where they are invited--and serve under the direct supervision of the local agencies to which they're assigned.

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Community Action Programs provide financial support for local anti-poverty campaigns in urban and rural areas, on Indian reservations and among migrant workers. Possible projects in local anti-poverty programs include: remedial reading, literacy instruction, job training, employment counseling, homemaker services, job development, vocational rehabilitation, establishment of neighborhood health centers, among others. This program enables communities to attack the network of problems with matching positive, varied, coordinated programs. Federal assistance depends on the community's determination to: (1) mobilize its own public and private resources; (2) develop programs of sufficient scope and size that promise to eliminate the causes of poverty; (3) involve the poor themselves in developing and operating the anti-poverty attacks; and (4) administer and coordinate the community action programs through public or private non-profit agencies, or a combination of these. The federal government pays up to 75 percent of cost of local programs in first two years; after that assistance is on 50-50 matching basis. A significant part of CAP is that these programs are developed, conducted and administered with the maximum feasible participation of the poor themselves.

Other programs offered are:

The Neighborhood Youth Corps
The Work-Study Program
Adult Basic Education Program
A Work-Experience Program
Special Programs to Combat Poverty in Rural Areas
Assistance for Migrant Agricultural Workers and
    Their Families
An Employment and Investment Incentives Program

Project Head Start was initiated and designed to meet the needs of children from poverty backgrounds at the most formative stage of their lives, namely their pre-school years. During this period, the creation of learning patterns, emotional development, and the formation of individual expectations and aspirations take place at very rapid pace. It is now that lasting attitudes and habits are established.

Head Start must help the whole child; help him in school, in the home and in the community. The cultural, medical, social and educational care of pre-school children born into disadvantaged circumstances, relates directly to their future lives. It is the foundation upon which their full-term education, their employment potential and, frequently, their good health and social well-being is based.

To meet these total needs, the program must contain five basic components:

Education
Nutrition
Parent Involvement
Social Services
Health Services

Head Start in summer of 1965 was planned for one hundred thousand children at an estimated cost of seventeen million dollars. It ended up with over five hundred thousand children being involved in the program at a cost of eighty-five million dollars. It is not just the children themselves, who are involved, but there is active participation by parents, the educators, the professional groups who have to render the services, the volunteers who come from all social and economic levels. There is a place for everybody in this total community concept of community action.

Because the pilot project was so successful, the Public Health Service has continued it into the 1965-1966 year in three different forms. First, there will be a 1966 summer program for about the same number of children who had the program last summer. Secondly, are the full year programs. Thirdly, there will be follow-up programs which provide remedial services for children who have participated in the summer programs.

Health Services. The health component of Head Start is comprehensive in nature, and includes diagnostic, preventive, curative and rehabilitative services. It provides a medical evaluation of each child, including screening of hearing, speech, and vision, tuberculin testing, laboratory procedures and completion of immunizations. Psychological evaluations are carried out where needed.

Initially, the Office of Economic Opportunity paid for diagnostic procedures and immunizations, while the costs for follow-up and treatment were assumed by established local agencies. It became obvious, however, that in many communities, facilities were unavailable, or were inadequate to meet the health needs of children in poverty.

To ensure that identified diseases are treated, Head Start programs now provide supplementary funds for complete health care services, when communities cannot fully assume these costs.

The referral and follow-up phase is a most crucial one and an area in which perhaps Head Start can make a significant contribution in bridging the gap between detection and correction. Here in conjunction with established social service and public health nursing agencies can be trained a core of neighborhood workers and social service aides who will work with the family. At this point health education can be most meaningful. An understanding of what factors prevent utilization of facilities can be developed and solutions found for their correction.

Health services should be rendered in a manner that confers dignity on the child and his family and indicates true concern for his welfare. This rules out such practices as complex procedures in obtaining service, unreasonable waiting period, unnecessary delay in referrals and in delivery of service, and use of second-rate facilities.

Research and evaluation is an integral of the Head Start program. A good reporting system of health findings is essential. We may then establish the true prevalence rates of such conditions as amblyopia and other diseases of children and we hopefully will obtain information on the reasonable costs for comprehensive care.

Various methods for providing care and follow-up can be described and made available to communities planning future programs.

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PSYCHOLOGY LOOKS AT LOW VISION RESEARCH

Robert J. Teare*

During the course of this conference, many points of view have been expressed by the various professions represented. At this time I am speaking as a psychologist, to an audience which consists primarily of optometrists. Although I am always stimulated by these inter-disciplinary conversations, I always approach them with a certain amount of caution.

In some cases, they can take away from rather than add to understanding among professional groups. This usually stems from two causes: (1) a failure to appreciate the problems, orientation and point of view of another profession; and (2) a tendency to speak in language or jargon that is unique to, and therefore intelligible only to, one profession. Being well aware of the fact that psychologists are often viewed as mystics who speak in a strange tongue, I shall do my best to avoid the pitfalls alluded to above.

It has been suggested that I talk on the subject of research in human engineering. That term has a special meaning within the purview of the psychologist; I shall talk about this in a few moments.

As we shall see, human engineering is but one facet of crystal of inquiry within psychological research. I should like to broaden the mandate given to me and speak about a number of research areas in psychology.

This session has been asked to discuss planning for the future in the light of certain aspects of past and present-day research. I would like to describe the characteristics of this research history, at least within psychology, by telling this story.

It seems that during a very long but uneventful airlines flight, the voice of the pilot came over the loudspeaker in the passenger cabin. He said, "This is the pilot speaking. I have some news for you. Part of the news is bad and part of it is good."

"I'll tell you the bad news first. Our navigator says he is not quite sure where we are and, consequently we may be going in the wrong direction. Nor for the good news. I am pleased to report that, over and above the uncertainty about our present course, we are really making excellent time."

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When I use this somewhat humorous anecdote, I do not mean to imply that the past has been filled with wasted effort and meaningless findings.

On the contrary, we have made excellent progress in many areas of low vision research in psychology and human engineering. Unfortunately, a good deal of this research has not lent itself to the solution of the problems of the target group under discussion at this conference. The explanation is fairly straightforward.

As most of you well know, the bulk of formalized research in psychology and its allied disciplines has concentrated on clients with more severe loss--the legally blind. As a matter of fact, this is true of my own research activity.

There are some good reasons for this:

(1) Research facilities, agencies, and instrumentalities designed to provide services to these people are more numerous;

(2) Research subjects can be more easily identified and contacted;

(3) The needs of this group have seemed more pressing than those with lesser degrees of loss;

(4) Severe and total vision loss have represented "cleaner", more sharply delineated phenomena for investigation.

As a result, from the standpoint of psychology and human engineering, only a small theoretical and empirical data base can be brought to bear on the problems of the visually-limited group.

Let me take some time now to explain this point and trace out its implications.

Engineering psychology or human engineering, as it is more commonly called, deals with the scientific study of the relationship between man and the machines he develops. Some of these machines extend the intellectual and cognitive abilities of man; others amplify or replace his sensory capabilities. In working with problems presented by the total loss of vision, human engineers have attempted to design "hardware" that will substitute tactile and/or auditory channels for those which normally provide visual information.

These research studies, primarily involving electronic amplification and conversion of the visible spectrum, have been comprehensively summarized in a section of a recent book called "Human Factors in Technology" (Bennett, et. al., 1963). Of more direct relevance are those efforts which are designed to provide greater direct access to visual stimuli through improved techniques of optical magnification.

As we have seen from some of the discussions in the earlier sessions, many strides are being made in these areas. Excellent summaries of research in low vision optical aids can be found in articles such as those by Davis (1952), Gordon (1957), and Linksz (1956).

Regardless of whether we are talking about sensory substitution or sensory amplification, our efforts with low vision groups are having less "pay-off" than they might otherwise provide.

Some of this lack is due to the fact that we are not able to extrapolate research findings which are based on groups with more severe vision loss. This problem, which stems from target group emphasis, we have already discussed.

However, another impediment cuts across research at all levels of low vision. Because it is a theoretical issue and it undercuts one of the requisite concepts of sound human engineering, I'd like to develop the point carefully.

The ideal interrelationship between man and machine is based on the concept of "compatability". All man-machine interactions involve an information exchange. In order for this information to be of maximum value to the human recipient, however, it must be made available at the right moment, be of the proper magnitude, and be of the form most appropriate for use.

Only when a machine can do this--provide the right information in the right place at the right time--can it be said to be truly "compatible" with its user. When this information consists of a visual stimulus from the external world and is filtered through an optical system to an individual with an impoverished history of visual experience, how do we determine what information to give him?

The answer to this question is not as straightforward as it might seem at first. A human being does not passively record sensory information, he processes it. He imposes various concepts--form, color, distance, movement--upon the visual energy he receives.

This organization of stimuli and the derivation of meaning from it is called "visual perception" by those psychologists who study it.

Although research in visual perception has been going on for many years, its laws and principles are based primarily upon data drawn from individuals who possess healthy and intact visual apparatus.

At the present time, there is little basic data which helps us to understand the role that these perceptual laws play in organizing degraded visual information. Studies that are now being carried out are beginning to demonstrate the crucial clinical value of these data. An excellent case in point is the recent monograph by McLaughlin (1964). Studying the strabismus-amblyopia snydrome, McLaughlin presents evidence which indicates that strabismic adaptation may take place through an anomaly of visual perception. Unable to develop normal binocular vision because of postural characteristics of the eyes, it seems that the patient develops functioning monocular vision by "supressing" the images of the strabismic or amblyopic eye.

These images, though seen, are perceived as being "unreal". Because of its history of adaptive value, this perception continues even after mechanical or surgical correction.

By lessening the real-unreal distinction through special techniques, McLaughlin was able to provide a number of patients with ". . .an effective adjunct to the use of surgery and eye glasses in the treatment of strabismus".

Time does not permit me to elaborate on other aspects of this theme. I think, however, that the point has been made.

Psychology and human engineering must devote much more energy to the study of perception among low vision groups. We must determine how those stimuli which can be received are organized, how this organization varies with different types of deprivation, the role of onset age and early experience, and how this organization can be modified over time by means of sensory augmentation and/or training. Only then can we design optical aids or institute clinical procedures that will best meet the needs of the low-vision patient.

In the time which does remain, I would like to talk briefly about one more area where I think we can profit greatly from concentrated research effort. No doubt it is related in part to the first topic but there may be merit in approaching it from another avenue.

For a number of years, rehabilitation personnel have been using the term "visual efficiency" to describe a rather persistent phenomenon. This pertains to the fact that some low vision clients are able to function much more effectively than others who, on various standard measurement techniques, possess the same amount of remaining vision. In other words, they are able to use what little information is available to them in a much more efficient manner. This difference in functioning manifests itself in a number of very critical areas of activity such as job performance and general mobility level. To the best of my knowledge, no definitive studies aimed directly at this phenomenon have been carried out.

There are a number of important implications and potential uses to which research findings in this area might be put. If the phenomenon truly exists, this means that there may be a meaningful difference in the prognosis given to a low-vision patient depending upon the type of data we obtain on him and make available to others.

This suggests something about the sensitivity and validity of some of our measures of visual functioning. Obviously, this is not news to most of you. It is fairly common knowledge that one can measure quite different aspects of visual skill. However, if some of these measures are more diagnostic and predictive of future functioning outside of the clinical setting, their relationships to one another should be investigated. Perhaps some types of patient data we can provide to other service professionals are more valuable than others.

Over and above this, there is another aspect which I find even more interesting. If this differential "visual efficiency" can be identified and measured reliably, it should be possible to trace out some of its origins. In certain instances, it may be due to the ability of the patient or client to marshall his own resources. He may do this without or in spite of the efforts of the clinician. On the other hand, it may be attributable to certain aspects of the restoration procedure the patient received. Thus, it may be due to the skill of the clinician. If this is true, the elements of care which can be identified to be associated with thie type of functioning should be incorporated into the therapeutic process.

Now let me begin now to summarize the number of points which I and others have been making. Some of these are primarily of a theoretical nature, others will be more of an operational orientation.

As a general point of view, as a posture if you will, I would urge that planning, regardless of its level of abstractions, ultimately be translated into the language and frame of references of those persons, be they optometrists social workers, or rehabilitation personnel, who are going to use the information that you provide.

Many ideas have been expressed within the past two days. As I have noted, they have been involved with current things. They have not always been expressed, however, in a way that they can be used most immediately.

Now to some specific plans and recommendations.

1. I would urge that demonstration projects be undertaken to examine all of the resources, human and informational, professional and interdisciplinary, in certain selected communities, that can be made available to low-vision patients. Then, in certain settings, show how these resources can be combined into packages and made available to patients. Then carefully evaluate and follow-up a number of these results translated into the language of the professionals who will use them.

2. I would urge that a systematic study of the effective optometric clinician be carried out. My company is currently carrying out such a performance study, with four special areas in medicine.

The purpose of this research, would be to identify and isolate clinical scales, which can be shown to be related to the overall rehabilitation of the low-vision patient; rehabilitation again being expressed in a number of significant areas of life function.

3. Review these findings, with an eye toward the implications toward incorporation into the curriculum of the schools of optometry. If certain clinical skills can be shown to be related to effective clinical performance in optometry, then they have a valid place in the curriculum of the schools teaching the profession.

Speaking more generally now,

4. Develop a rationale along the lines Doctor Riviere has already started for generating a system of describing behavioral findings in a number of different

areas, so that the vision loss of the patient can be expressed in behavioral terms, which are meaningful to the optometrist, to school personnel, to employment counselors, to teachers, and most important, to the patient himself and his family.

5. Along the lines of my first point, we must develop a better understanding of the role of perception. In other words, we must know more about the contribution the patient himself makes in coping with his degraded visual status.

This process of perception is a reinforcing one. If you are going to change his resources, you have got to interrupt the way he brings them to bear. This process of perception is a learnable phenomenon and changes in this perception and changes in this level of functions, have got to be described in terms of intermediate sequence, so that every step of the way the patient's progress can be described. This cannot initially be in terms of the total outcome, total rehabilitation, but all along the line, each phase of operation, and their relationship to one another should be established.

McLean, Virginia

RESEARCH, DEVELOPMENT AND EVALUATION OF SENSORY AIDS FOR THE BLIND

John K. Dupress*

The first attempt to construct a sensory aid for the blind, which would permit access to the printed word, was made by Professor Fournier D'Albe of Cambridge University (England) around 1912. This device, called the Optophone, utilizes a linear array of six photo sensors which are used to scan the letter areas from left to right in a successive series of narrow slits. The machine converts optically-sensed information to six tones which are similar to those of part of the register of a Hammond electric organ. Improved models of the optophone were constructed during World War II in England.

Although several hundred people have been exposed briefly to training with the optophone, and a few have had long periods of training, only one person in the world, Miss Mary Jameson of London, has successfully used the device for 40 years to read print and typewritten characters. The fact that the optophone has found so little acceptance among the blind indicates that the human engineering problems in learning and comprehending the output is more important than the technical design.

Further research on other reading machines began during World War II. Most of the work in the United States has been done under the sponsorship of the Prosthetic and Sensory Aids Division of the Veterans Administration. As a result of conferences sponsored by the Veterans Administration, and the deliberations of an advisory committee to the Veterans Administration, reading machines have been classified into three categories:

1. Direct Translation Machine

This machine employs a linear row of photo sensors, or a flying spot scanner, to probe the area containing the print. The print area is investigated by a succession of narrow slits and the device converts the optically-sensed information to auditory or tactile data. When there is sufficient black in the slit being investigated, the blind person hears a tone or feels a poke probe on the surface of his finger.

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The direct translation machine has the following capabilities: relatively simple to build, low in cost, lightweight, compact, portable, and able to handle a wide variety of typewriter and print fonts. In lots of 1,000 or more, these machines could be sold to blind individuals or organizations for $500 to $1,000 apiece.

The disadvantages of the direct translation machine are that the human being has to do all the processing of the data which, in turn, requires a long learning and adaptation time and the reading rates are very slow (usually less than 10 words per minute [WPM]). Special qualities of motivation, tonal memory, cutaneous imagery or other individual attributes are necessary.

The most advanced form of the direct translation machine is being evaluated now with blind subjects at the American Center for Research in Blindness and Rehabilitation (Newton, Massachusetts). This project is being sponsored by the Veterans Administration. The blind subjects at Acribar have achieved speeds of about 5 wpm, in spite of extremely good engineering design and extensive subject training.

2. Character or Letter Recognition Devices

A much more complicated approach to the design of reading machines for the blind is the letter or character recognition machine. This machine contains enough internal logic to enable the optically-sensed information to be "recognized" by the machine. The output from this machine may be a spelled letter originally spoken by a human being and retrieved from magnetic storage, or a Braille symbol generated by a variety of tactile displays. Most of the work has already been done for the blind subject, so that he need only know how to spell and to make certain adjustments in the machine.

The Veterans Administration is sponsoring a project on letter recognition machines at the Mauch Laboratories, Dayton, Ohio. Researchers at Mauch hope for reading speeds in excess of 60 wpm, with a potential top limit of 120 wpm.

Advance research also is underway in the sensory aids group of the Research Laboratory of Electronics at M.I.T. Here, the computer is being used to simulate the functioning of parts of a reading machine. Through the use of ingeniously contrived algorithms or coded letter feature data, it is theoretically possible to build a character recognition machine for $3,000 to $5,000, which is better than 97 percent correct and can operate at speeds in excess of 100 wpm.

The principal advantage to the letter recognition machine is that it requires no new learning on the part of the blind subject and adaptation and training time is minimal. Although not as lightweight and compact as the direct translation machine, the letter recognition machine with miniaturized circuitry probably would be as large as a standard electric typewriter. In lots of 1,000, the M.I.T. or Mauch machines probably could be made available at a cost of $3,000 to $5,000.

3. Word Reading Machines

There is a Veterans Administration sponsored project at the Haskins Laboratories (New York) which uses a complex machine to read-out teletypesetter tape and retrieve words spoken by a human being and stored in a magnetic memory. Such a machine is complex and expensive and is intended for a central processing facility only. The cost would exceed $50,000, even if a number of them were constructed.

The main advantage to the word machine is that the data is presented to the blind person a word at a time, similar to the way sighted readers convert the printed book to an audible form for the blind. Although the Haskins machine does not work fast in real-time (less than 20 wpm), it can go on working 24 hours a day. The information is stored on magnetic tape which can be played later at a word rate of at least 102 wpm. With electronic time compression, the final output could be as high as 300 to 500 wpm.

The practicality of the word reading machine depends upon efficient handling of compositor's tapes and the acceptance of an audible output which does not have the inflections or other personal qualities of an actual reader.

Since none of the above-mentioned reading machines are in general use, blind people must resort to the alternative methods of Braille and sound recording media.

Braille

There is a research and development program underway in the Mechanical Engineering Department at M.I.T. to provide more Braille material by means of various Braille belt and line-at-a-time Braille displays, a high-speed Braille embosser, and computer programs to convert compositor's tapes* to Grade II Braille. The instrumentation and programming have been, and are being, designed to provide access to a great many more books which are stored on typesetting tape.

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*Tapes used in the publishing industry to set type, which represent a form more easily handled by machines than printed characters.

Computer programming to convert teletypesetter tape to Braille is nearing the feasibility stage. A monotype reader is being designed so that text books stored on monotype tape can be read into the computer for conversion into Braille. Computer programming will permit almost complete automation of compositor's tapes to Braille conversion, with a minimum of human intervention, by means of an edit function which is being built into the computer program.

The high-speed embosser represents a possible small scale duplicating facility for Braille. In the area of Braille, this unit is the equivalent of the electric typewriter for print. The embosser operates at speeds as high as 16 cells per second, can be fed from continuous rolls of paper, and will operate with a variety of electrical signals from punched paper tape readers and other input sources. Another example of an application for the embosser is its installation in a console at a research computer facility where a blind researcher is able to read-out the information from the computer. It is hoped that the embosser will be useful in other computer facilities, since there is an increasing trend in training and employing blind programmers.

Braille displays are intended to read-out compact and inexpensive storage media for Braille other than the actual embossed page. These storage media could consist of punched paper tapes, magnetic tape recordings or optical storage.

To implement the high-speed duplication of Braille, the Honeywell Corporation has converted a Honeywell H222 computer printer which generates 431 lines of Braille per minute. Although this converted printer is potentially very useful, the rate at which it operates restricts its use to one or more central facilities where a great quantity of Braille must be produced rapidly.

Sound Recording Media

Sound recording media are another alternative to reading machines. In this case, a sighted human reads printed material into a tape recorder and the tape recordings are duplicated and/or serve as masters for discs which are, in turn, distributed to the blind. The principal research and development projects are sponsored by the Library of Congress in the United States and by the Royal National Institute for the Blind in England.

Both projects employ cartridges or casettes which protect the tape from damage and facilitate tape handling by the elderly or multiply handicapped. The tape and its container weigh less than one pound for an entire recorded book.

Time compressed speech is an important development in sound recording media, which is made possible by a computer or electronic apparatus such as the Tempo Regulator, the Fairbanks or the Varivox. The normal reading rate of 175 wpm can be increased to more than 275 wpm for extended periods, and to more than 475 wpm for limited amounts of material. Speeds as high as 995 wpm have been achieved during experiments at Harvard University. Behavioral research on time compressed speech conducted at the University of Louisville, Harvard University, The American Institute for Research, and the Air Force indicates that speeds of 275 wpm are entirely feasible and speeds in excess of 475 are practical for short periods or for scanning.

Research on mobility aids to be used as a supplement to the cane or dog began during World War II. At that time, a number of ultrasonic and sonic devices were constructed as part of a research program sponsored by the Office of Scientific Research and Development. During the past twnety years, a wide variety of ultrasonic, sonic, ambient light, infro-red light and, more recently, laser or laser-like devices have been constructed.

Developments in the aero-space, military and data processing fields have greatly facilitated mobility aids research. Rechargeable batteries, transistors, integrated circuitry, high-efficiency short wave-length transducers, and a number of new auditory and cutaneous displays have been utilized in building devices which, in many cases, weigh less than one pound.

Among the potentially useful devices now receiving extensive evaluation is the narrow-beam ultrasonic mobility aid developed by Dr. Leslie Kay, formerly of Birmingham University (England). The Kay device operates with frequency modulated ultrasonic energy similar to the function of the bat's sonar. It is hand-held and is capable of detecting small objects at distances up to twenty feet, while at the same time providing some additional data concerning the surfaces and geometry of an object. The Russell device, developed by Mr. Lindsay Russell of Cambridge, Massachusetts, is a pulsed ultrasonic unit which weighs less than a pound and can be fitten into a jacket pocket. This device is intended to search the area through which the head and shoulders of the subject will pass (not explored by the cane), at distances up to six feet ahead. A third device is a long cane fitted with three laser-like sensors (gallium arsenide). This project is being carried out at Bionic

Instruments, Inc., Bala Cynwyd, Pennsylvania. One sensor provides early warning of terrain changes, the second detects objects up to 20 feet away, and the third alerts the user to obstacles in the area of the head and shoulders.

If the three mobility devices mentioned above, as well as others not mentioned, are to contribute significantly to mobility, they will require more extensive use by the blind, design modifications based upon evaluations, and the development of special training procedures for blind subjects. The role of mobility devices will become more important as the trend towards more travel at all age levels continues to increase.

The instrumentation mentioned previously is particularly relevant to blind persons with little or no useful vision, or to those who are totally blind. However, there has been a limited amount of research and development for the partially sighted. The first project for this group specifically designed to give them greater access to printed matter was carried out at Dartmouth College and Perkins School for the Blind during World War II, under the sponsorship of the Office of Scientific Research and Development. Since that time, a great many low vision aids have been developed by ophthalmologists, optometrists, physiological psychologists, and technologists. Dr. Louise Sloan of Baltimore has issued a most impressive compendium of these aids.

Conspicuously absent from existing low vision aids are devices which could assist in the mobility of the partially sighted. There is a wealth of valuable data concerning successful applications of low vision aids for reading, but there has been very little experience with mobility aids under the complex and dynamic conditions encountered in every day pedestrian travel. Optometrists, ophthalmologists and rehabilitation specialists for the partially sighted must undertake applied research and field testing of low vision aids which will permit mobility for those with less than 20/200 vision.

The elderly comprise the majority of our blind and partially-sighted population. Deterioration of the remaining sensory channels and processing of information by the brain come with aging. Because of the relative poverty of this group, they are unable to take advantage of even inexpensive sensory aids.

In England, a survey of the needs of the blind is underway which, for the first time in the history of the field, will provide some definitive data on the real needs, problems, questions and suggestions of the blind population. When we really know what changes occur with blindness and aging, then we can plan for the enhancement of functioning or capability of the blind through the use of technological aids.

Each individual mobility device is intended to help in the solution of one or more of the following sub-tasks: (1) early detection and/or recognition of objects in the intended travel path; (2) detection and/or recognition of objects for orientation and navigation purposes; (3) early warning of terrain changes (step-ups and step-downs); and (4) three-dimensional environmental sensing beyond the reach of the blind person's hand or cane. None of the devices is capable of replacing the cane or the dog, but some of the devices may be very useful supplements to the cane or dog after appropriate training.

The computer is becoming very important in the lives of the blind, and the following are a few important applications: (1) new careers in data processing are opening up for the blind because of newly established training programs; (2) the American Printing House for the Blind now is able to translate English into Grade II English Braille; (3) a Honeywell Corporation computer line printer has been modified to produce high quality Braille at 431 lines per minute; (4) M.I.T. now is able to simulate the functioning of reading machines, mobility devices and the environment through which a blind traveller passes while using a device; (5) data obtained from the evaluation of mobility devices can be processed more accurately and faster than by human observers; (6) compositor's tapes are being converted to Grade II Braille and later may be used for generating synthetic speech; and (7) time compression of speech, at rates as high as 1,000 wpm for certain material, will improve the reading and comprehension of speech by the blind.

It is anticipated that applications for the computer will increase markedly in the near future.

The concept of employing an evaluation to determine the worth of a given sensory aid evolved at the Haskins Laboratories during World War II. Good evaluations make this determination objectively and accurately, provide guide lines for improvement of the device, and add to the body of scientific knowledge concerning blind reading and mobility.

Evaluations are generally undertaken by a team comprised of behavioral scientists, technologists and rehabilitation specialists in work for the blind, in order to help determine the funding policies of organizations. However, they are more useful to researchers who look upon them as important sources of information for the design of better sensory aids. In the past, each evaluation has been initiated by a new team, but the current trend is toward the establishment of permanent evaluation facilities. Now, evaluations are initiated routinely whenever a reading machine or mobility device has been completed in the laboratory phase.

The totally blind serve as subjects, since most devices are intended for people with no useful vision. In the case of mobility aids, field testing in real life situations is more important than tests conducted under controlled laboratory conditions.

In addition to evaluation, a survey should be donducted to determine the real effectiveness of sensory aids used by the blind over a long period of time. This is particularly important in the case of low vision mobility aids designed for the partially sighted.

In the final analysis, the proof of the worth of any given sensory aid is the regularity with which a blind person uses it in successfully solving the problems arising from sensory deprivation.

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THE WELFARE ADMINISTRATION
U. S. DEPARTMENT OF HEALTH, EDUCATION AND WELFARE

Joseph Meyers*

I am with Welfare Administration, Department of Health, Education and Welfare. This is a separate unit within the Department. Very briefly, let me explain what we do in Welfare Administration. We are concerned with that often maligned and very often misunderstood subject, public welfare. Specifically, the programs with which we deal, are the public assistance programs which provide financial assistance, social services, and medical assistance for needy and near-needy individuals.

We are also concerned with all problems affecting children in the area of health and welfare through the Children's Bureau which is part of our organization. We have a separate organizational unit which deals extensively with problems in prevention and control of juvenile delinquency.

To list a few of the areas where our programs provide aid and services to people of low vision: first, there are the comprehensive categorical assistance programs which provide income and services to needy individuals.

Through the Children's Bureau we have programs for crippled children, maternal and child health, which I think were mentioned to you earlier during your program by some of the other people from our organization. In addition, social services are provided to children and families. We also have a very large new medical care program under title 19 of the 1965 amendments of the Social Security Act, about which Miss Butts told you last night.

Another thing I think we can do which ties in with what Dr. Teare mentioned to you is to supply demonstration possibilities. We have quite a few areas in which funds are available to state and local communities for demonstrations, which could be used to mount a project; try to demonstrate or experiment with ways of bringing social services and medical care to people of low vision. I think another area where we have so much in common would be the OEO Program that Dr. Hunter mentioned. This is in the whole area of bringing together and involving the community total in bringing services to individuals.

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This is a big gap. There are not enough services; they are spotty in location and quite often the great range and battery of services that are available are not properly united. There is much selfishness, and it is a big job trying to get people to work together. All of the resources are needed, both voluntary and public. Research? We don't do enough of it! You have heard a lot about that in other areas, but we don't do the necessary research in this social welfare area either. We need to develop our research capability, trying to find answers to social problems. We must learn to innovate a little more; to find new methods to simplify our procedures.

The big job, of course--the one we are finding all of the time in all of our areas, and that we have to solve, is the manpower shortage problem. Not only in the medical field and the paramedical field, but also in the social and economic fields we have real problems about manpower.

I have seen estimates that in public welfare alone, by 1970, there will be a need for a hundred thousand new social workers--just in public welfare!

Well, we haven't got the schools to turn them out so we have to do something really dramatic in this area. Training, better utilization, simplification of procedures--all of these things are sorely needed.

In short, I think the message I would like to bring to you is that for public welfare and as public welfare, we have a vital interest in being able to improve services generally. There is, in every county in the United States, and there are about thirty-three hundred of them, a public welfare department. This is a force which is uniformally pervasive throughout the United States and it can be a unifying force in trying to bring together these varieties of services so that they can be unified and all appropriately utilized.

Washington, D. C.

QUESTION DIRECTED TO MR. MEYERS: Could you comment on the provision for visual care in title ten of the Elementary and Secondary Schools Act? Is it available for optometrists and ophthalmologists?

MR. MEYERS: If you refer to Title Ten of the Elementary and Secondary Act, I am not familiar with it. If it is by any chance Title Ten of the Social Security Act, which provides for assistance and medical services to blind individuals, I can't comment on that, but I really don't know enough about the Elementary and Secondary Act to comment on it.

There is a provision in the Social Security Act, which provides that in determining blindness a state must have an examination as to blindness which can be done either by a physician skilled in the diseases of the eyes or by an optometrist--and the choice must be the choice of the individual applying for the assistance.

VOLUNTARY COMMUNITY ACTION

Lee Holder*

I think I would like to shift the conference gears here a little bit and tell you about one effort at melding this action research which we have been talking about--the melding of social research with community action throughout the United States in a voluntary effort.

I would also like to distinguish the Community Action Studies Project with which I have been working from that of which Dr. Hunter has been talking. The National Commission on Community Health Services was set up as an independent, temporary commission, funded primarily through Kellogg Foundation with some Public Health Service assistance and other funds.

Our charge in the Community Action Studies Project part was to identify and analyze some of the principles of community action, particularly those related to improving and/or maintaining health services. This was a voluntary effort, as I said, in the interest of time, I would like to read a statement about the Commission's work.

One of the most significant recommendations evolving from the National Commission on Community Health Services, as a result of its four-year study, has been one that urges communities throughout the country to intensify cooperative health planning efforts. We call this process "action-planning".

My purpose is to discuss the findings and implications of the National Commission that relate to planning for the future to improve community programs and apply to programs for the visually limited.

Let us first consider three concepts which are fundamental to the subject:

1. A concept of community health services--No longer can we think of community health as being in the exclusive domain of one group or agency. Community health encompasses personal and environmental health services and the many elements necessary for delivery of health services to people.

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We must recognize the many different and varied roles, responsibilities, and functions incidental to providing comprehensive community health services to insure that services will be available, accessible, acceptable to the consumer needs. Attaining the goal of comprehensive community health services requires dynamic inter-action between and among many groups that take part in delivering health services--governmental agencies, voluntary health and welfare agencies, hospitals, schools, industries, civic leadership groups, and others.

Of course we must not forget the key role of individuals in the concept. One of our health education goals is to stimulate the individual to seek responsibility for his own health.

Private practitioners of the health and medical sciences comprise the cornerstone of health services in our country--the physicians, dentists, pharmacists, optometrists, and others.

Although we recognize their roles as being fundamental, our primary interest within the Commission has been to concentrate on those services that are organized and carried out on a community-wide basis rather than that of the one-to-one relationship of private practice.

2. A concept of health community--In the past we have too often defined our community as our neighborhood, village, city or county--usually an area contained within a circumscribed political jurisdictional boundary. We find, however, not at all to our surprise, that health matters are no respectors of these traditional boundaries.

The health problem-shed and health market area concepts better describe areas in which we must work to solve health problems efficiently and effectively.

We might call this kind of community the "community of solution", i.e., a health community must encompass an area large enough for people within it to have resources sufficient to solve the problem. Specific geographical areas may be different for each problem, for example, the water-shed may be vastly different from the hospital trade area, or a number of other communities of solution.

The point is this--responsible people must re-think traditional ideas about their health community boundaries and develop the coordinative mechanisms through which we can make the most effective and efficient use of our resources to maintain quality health services.

To attain this goal will require inter-agency and inter-jurisdictional agreements, teamwork and, in short, action-planning.

3. A concept of comprehensiveness--If there were one word which would describe the work of the National Commission it might well be the word "comprehensive". We speak of comprehensive community health services, or comprehensive community health action-planning, of comprehensive care for the individual.

A few simple examples will serve to illustrate some of the interrelationships among health problems, pointing to the need for a comprehensive approach to personal health and the necessity for all members of the health team to work closely together for the benefit of the patient.

The child whose eye problem is discovered through a visual screening program may not have his health problems resolved merely with the fitting of glasses; this health problem may have caused him to fall behind in his classes and suffer academically, resulting in emotional problems at school and at home, or there may be a number of other physical, social, and mental problems connected with any given episode of illness.

The malnourished child discovered in the classroom may be symptomatic of larger family social and economic problems; or the dentist may discover signs of oral cancer in a patient who comes to his office for dental work.

Is it not, therefore, the responsibility of the person who discovers these other multiple problems to refer each individual to those resources which will attend to his other problems?

We realize that many practitioners routinely refer patients, but how often do other health groups refer and follow up? At best it varies.

We cannot neatly compartmentalize health problems and responsibilities into separate domains. We must think of health as a community affair and develop the kinds of relationships which will help us to realize our goals for providing quality services and improving the health status of the people.

Within the structure of the National Commission, a Community Action Studies Project was developed to identify and analyze principles and methods that facilitate effective community action to improve health services.

In order to do this, we recruited twenty-one community groups throughout the nation to conduct self-studies of their own health services and to allow us to study community action processes in these communities as they studied themselves--through a social science research technique called "process analysis".

Other study activities in which we engaged in CASP were: a study of community readiness to act; a retrospective analysis of some 2,000 previously conducted health studies; a series of special case studies of community success experiences (focusing on the politics of community health planning).

Findings from all these study activities point to one central imperative--the process of action-planning within communities. One of the key factors distinguished ready from unready communities in the presence of an effective planning group (either formal or informal).

Results from case studies of successful community programs point to outstanding leadership and long, carefully built traditions of planning as factors. Process analysts agree that success in planning is largely shaped by the quality of community leaders that participate in health planning activities.

Many professionals have traditionally felt health planning to be a professional affair, but our studies show quite conclusively that health is a community affair--health issues are intermingled with non-health issues, such as traffic problems, urban development, economic growth, race relations and a number of other community concerns. To achieve community action in health requires a collaborative partnership between health professionals and civic leaders.

From these studies has come the concept of action-planning as a process to meet the need for appraisal, study and planning geared to a continuous action program for improvement of health services.

Most important, it has been emphasized that such action-planning must be community oriented with wide community participation. This is because we find:

1. No two communities are the same--each differs in specific health problems, resources, and goals. Action-planning, as a process, must be geared to a community and its people, taking these differences into account and dealing with them in a realistic and relevant manner.

2. Community health action-planning is a process and not a goal in itself, although its potential for meaningful participation in community citizenship has immeasurable implications for our way of life.

3. The nature of today's society and its complexities of health and other community services necessitates ways and means for planning and action not only tailored to each community situation, yet are in harmony with broader trends, and with flexibility to adapt to further development and change. We must be able continuously to adapt to technologic and social change and function within the realities of the community, the state, the nation, and the world.

4. Use of the term "action-planning" is based on the belief that neither study nor planning, as such, is sufficient to accomplish community goals. Action is essential and must be stressed throughout. Approaches which foster adaptation of general principles and methods of action to diverse community patterns must be developed. The approaches must be geared: (a) to understand and identify problems; (b) to establish appropriate goals; (c) to utilize resources; (d) to influence attitudes; (e) to resolve conflicts; (f) to facilitate decision-making; (g) to stimulate action and continued evaluation.

Within this context, action-planning for community health services should be comprehensive in function, community-wide in area, continuous in nature, and action-oriented.

What are the implications for action-planning that relate more specifically to community programs and services for the visually limited?

First, we must recognize that resources for aiding the visually limited exist within a number of places in any given community. In addition to private practice, many governmental and private health agencies have a stake in programs; so do many civic groups. For example, in any given community the Lions Club will usually have a vision program; the Rebekah Lodge may have an eye-bank program; Vocational Rehabilitation programs will exist as a resource; health departments, schools, and other agencies will undoubtedly provide services.

In order to prevent duplication, overlap, or gaps in service and to identify goals for meeting needs for the visually limited, a cooperative, collaborative, coordinated approach is needed--this we call action-planning.

Vision needs and programs, however, do not exist in a vacuum. They relate to and are affected by other health needs and programs. One objective should be to relate programs for visually limited to other community health activities and make services for visually-limited people a recognized part of community health programs.

Persons interested in improving programs for the visually limited should not hesitate to participate in health planning activities. One word of advice: if there is a planning group in the community, do not wait to be invited to join in the work--volunteer to serve as a person interested in people and their health, of which eyesight is a vital function. This is one way in which vision problems can be brought to the attention of others in the community and in which support and appropriate programs can be developed.

It is a way by which eye health can be related to other physical and emotional problems and coordinated programs can be implemented at the community level. Schools, health departments, voluntary organizations, hospitals, service clubs, industry, and many other groups can coordinate their activities for the good of visually-limited people by working and planning together to identify needs and resources, establish realistic goals, and develop action-plans to achieve their own self-determined goals.

Self-study is one technique that will work to accomplish action-planning objectives. As a part of the Commission's work, CASP developed a program of self-studies in twenty-one communities throughout the country. Self-study as a philosophical concept and an action mechanism for improving health services provided a setting for all groups (health and non-health) to come together to study community health programs, services, and needs; to set goals, to develop plans to action, and to act on their plans. It provided an opportunity for study groups to relate the various parts of community health programs in a meaningful way and deal at one time with the shole--environmental health to personal health, in fact, health problems with broader community needs. It was a chance for health to become a community affair.

These self-studies provided unprecedented educational opportunities in improving health services through developing the recognition of needs and providing at the same time an action vehicle for developing needed programs.

While the participating agencies and groups studied broad problems, they also could plan agency goals and programs that fit into the whole pattern of community health--supplementing and complementing efforts of other groups and reducing overlap, fragmentation, and duplication.

Challenges, opportunities, and responsibilities for working together cooperatively, for developing new programs to meet new or changing needs, for planning ahead for the future are with us as never before.

We have experienced in a lifetime the advance from the Model-T Ford to rocket flight to outer space--but can we rightly be accused of using Model-T-type health programs for space age health needs? Hence, action-planning is no longer a luxury--it is a necessity if we are to solve the problems that will be with us in the decades ahead. We must all do our part and accept these added responsibilities.

We must believe in health as a community affair.

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COMMENTS BY RESOURCE PANELIST

J. F. Follmann, Jr.*

I certainly think, and someone should have said it long before this, the AOA should be greatly congratulated on this session of planning for the future because this sort of thing is not only well needed, but such a broad gauge approach as has been taken here this afternoon, is extremely worthwhile.

I think Dr. Davis' point on the need for what he calls, the team approach, which I suppose will mean more understanding and mutual appreciation among the professions, is a very important point.

Those of us in the Health Insurance field have an interest in all such developments as have been discussed here. We become increasingly frustrated at times when we encounter absence of cooperation and mutual understanding on the part of the various professions in the health care field. I think our lives would be a lot easier if some people could learn to talk with one another more frequently.

Dr. Hunter's approach to the social aspects struck me as extremely important because sometimes I get the feeling that there is too much attempt to isolate health factors unto themselves, while leaving out the many other factors which have bearing on this.

The very problem of a low degree of education, which is much more prevalent in our United States population than we choose to think, is of basic importance. The more the facts of life come to the surface, the more one comes to recognize that where general education levels are low, there is a general absence of needed health care. To those of us in the health insurance field, where usually, the equation rapidly becomes economic, this is a matter of some interest because these same people are the people who do not have health insurance protection. This is a matter which interests us very much because the whole spectrum of social, cultural, and educational factors in life have such a close relationship to health, to the obtaining of needed care, and to the meanings of financing that care.

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Dr. Teare certainly spelled out the future for many of us. Those of us in the research, who are usually pretty good at spelling out long-range future goals would hope that no one would deny that research always plays an important role.

QUESTION DIRECTED TO MR. FOLLMANN: It has been suggested that insurance practices may inhibit the hiring of handicapped persons. Would you please comment?

MR. FOLLMANN: This is a common point which turns up every now and then. I don't know, well, I guess maybe I do know, where it comes from--but in the process of writing group insurance, the insurance company knows practically nothing about the people they are covering, they know what occupation they are engaged in, but they have no idea whether there are or are not present handicapped people.

So, this factor does not enter into the health insurance picture in the slightest. I would expect that there can be an occasional employer who has some concern about hiring a handicapped person, and puts the blame off onto his other costs, including his insurance cost.

I suppose there can be, at times, instances where labor unions, through a concern of seniority rights or whatever, may have a concern about employing handicapped people and can put the blame off onto the cost of health and welfare programs. But I don't see how the grading methods employed by insurance companies could affect the employment of handicapped people at all.

QUESTION DIRECTED TO MR. DUPRESS AND DR. TEARE: Both of you have referred to the need for new research of an interdisciplinary nature. It would seem that new research models are needed. Will you please comment on this?

MR. DUPRESS: There is only one sensible approach to evaluating, or determining the effectiveness of, complicated sensory aids designed for the reading and mobility problems of the blind. The team approach is absolutely necessary; the team should consist of technologists (engineers and/or physicists), behavioral scientists (sensory and experimental psychologists), and rehabilitation specialists who are aware of the details of problems encountered by blind people in their day-to-day lives.

The difficulty with experiments designed to measure the worth of a sensory aid is that they are generally conducted under extremely simple laboratory controlled conditions. They seldom resemble what goes on in real life, and this is particularly true of mobility rather than reading devices. Reading devices generally involve measurements of comprehension, training where necessary, the amount of learning required on the part of a blind subject, and some other factors. Mobility, however, involves real life situations which rarely can be simulated in the laboratory.

In the measurement of mobility devices, it is necessary to reduce the use of, or eliminate altogether, human observers. Therefore, the experimental design should employ tracking instrumentation to monitor the movements of the blind subject as he uses a given mobility device, computers to analyze the data, and film and sound recordings to capture information for future analysis.

The use of models relating to experimental design or the origin of theories is not as straight-forward, in the case of sensory aids for the blind, as one might think. We know so little about human mobility--sighted or blind--that it is difficult to construct useful models. If we are trying to develop a sensory aid to present even a highly limited form of vision through some remaining sensory channels or directly into the brain, the existing models are of little assistance. The types of models we can realistically think of at the present time are what one might call block diagrams of the tasks or bus-tasks which are involved in reading or mobility. They are useful when accompanied by enough descriptive data to illustrate the nature of the problems to scientists not in the sensory deprivation field.

FURTHER ANSWER BY DR. TEARE: Let me add a few comments. The implication of some of the comments he made were that there were already in existence a number of models which can be used to describe human behavior, and I have to agree with this.

Some of the forms of human behavior you want to study in their real conditions, separated from the pure laboratory environment, begins to break down because the models aren't complete enough or our mathematics isn't sophisticated enough to handle what are known to be many linear functions in very, very complicated combinations.

The most important limitation, I think, from the standpoint of psychology at the present time, despite our abilities to speak and verbalize and use big words, is that we haven't really been able to measure the things that seem to be of critical interest in precise enough terms to meet the assumptions of most of the models that are made available.

We function very well in very small discrete and limited areas of measurement. The more we learn, the more we study in science, including psychology, the more we begin to understand some of the limitations of measurements that we have available for those models which are complex, which are multivaried or which handle many, many different variables at the same time. At present, they take more rigorous assumptions that we can hope to meet, therefore, we concentrate on very narrow functions, functions of a more physical nature, ones which are immediately applicable to models that are available.

We have got to develop much more sophisticated techniques within psychology and then get together with other disciplines who have managed to generate models which are already complicated enough, which make too many demands on the kind of things we deliver and not so much on new models per se.

We need new techniques for measuring some of what I might call the fussier dimensions of human behavior, fussier partly because they are difficult to define. Also, they give us difficulty because many, many elements in them which we cannot control or analyze in the laboratory exists out in the field. We haven't been able to describe these completely enough yet and in precise enough terms to plug into the models the operation researchers have developed.

QUESTION DIRECTED TO DR. TEARE: What is involved in evaluating successful clinicians and clinical procedures?

DR. TEARE: I will have to be very brief because I think discretion, as well as time, would indicate that I do so.

Our particular concern right now is describing clinical practice, i.e., the actions that a clinician takes in dealing with a patient within the setting of a practice, as differentiated from the technical information and the kind of manual or technical skills that he can bring to bear. So, the first step is one of description in very precise and meaningful terms. We are using a technique known as the critical incidence device for this.

The second step is separating actions taken toward the patient into those actions which can be seen to have clear-cut effects and consequences of little or no identifiable value. It is already becoming clear that the great bulk of what a clinician does to the patient is of the latter type. However, just as the advertising man is quoted as saying, "fifty percent of my budget is wasted--I wish I knew which fifty percent."

If much of what we do does not make any difference, we have got to separate this out, the ineffective from the effective. Then once these are determined, we again go back to the problem I was referring to.

We have to generate ways of measuring and describing the conditions under which the desirable behavior takes place, ways of measuring this effective clinical performance and translating it into terms of instruments.

QUESTION DIRECTED TO THE PANEL: One final question: recognizing the necessity for a multidisciplinary approach and that it is highly desirable for both health care and research problems, isn't there a danger of not being able to "see the forest for the trees", and who is going to be the "leader" of the team?

ANSWER BY DR. TEARE: A few months ago, we were down at Gainesville, Florida, studying a college of health-related professionals. The particular concept that was at work in this college was the team approach, the paramedical approach in medicine.

As part of the conference that was taking place, the team approach as such came under attack. First of all, parenthetically, when we would visit and interview each department within the college, we would then ask (and while at first this was merely naivete, after a while it became with malice aforethought) we would ask where the next department was and we found out in this huge complex of integrated paramedical team approach, physical therapists didn't know where the OB Department was, the occupational therapist did not know where the rehabilitation division was located, and so forth. My answer to this was that the "integrated team approach" seemed a bit over-played, at least at present.

ANSWER FROM MR. HOLDER: I would like to comment on two different levels. The National Commission on Community Health Services has a "Task Force" on comprehensive personal health services, and they are concerned that once a person is identified with the expressed need with which he comes into the health system, he usually stops there or incomplete referrals are made.

So they are proposing that each person or family needs a general health counsel or general health practitioner or something of this nature for the overall health look, but it is the responsibility of the portal entry--whether it be the optometrist's office or the emergency room of the hospital to take a look beyond the immediate problem and be cognizant of the total need of the individual.

Secondly, my concern has been that we are not using, within the community, the technological resources we have now. It is like the old farmer who was urged to go back for an agricultural course and he said, "Why should I go back? I am not farming now as good as I know how to."

So we have to do something to reduce this behavioral gap. It is my opinion whoever perceives a community need, has the responsibility, I think, to bring others of like mind together to work on a coordinated basis. Here is what I think is the need, what are we going to do about it? I think that there are individual responsibilities and there are community responsibilities.

ANSWER FROM DR. DAVIS: As optometrists, most of us think in terms of individual clinical practices. We worry about who will be captain when we do begin working as a team. It will more than likely not matter who becomes captain. In practice the captain is often the team member who assumes the responsibility. In many cases this will be the member who first brought the particular patient to the attention of the team. In other cases it is the man for whom the patient has the most confidence and respect.

Nobody wants the responsibility, however, so I really feel that the captain will be whoever has the nerve to assume the responsibility to see that the patients get the total care.

ANSWER FROM MR. HOLDER: It seems to me that, practically speaking, in these days of specialization, every individual patient is, in a sense, becoming his own diagnostician.

It is he who figures out what his ailments are in order for him to select the kind of practitioner to whom he goes. If I have a problem, do I go to an internist, or to whom do I go?

So I select one out of the phone book or something like this. I may be completely off, but I am making my own diagnosis.

ANSWER FROM DR. HUNTER: I would like to say this is the reason with Head Start that we have come back to screening. With screening, you get at least some clue as to what the problem is and there you have a referral system to at least lead them to some place where they can have definitive care.

ANSWER FROM MR. DUPRESS: There is an ever increasing amount of applied research in the area of the aged population, including the partially sighted. This research usually begins with two assumptions: (1) The aged have unlimited problems which should be studied, and (2) Studies should be confined to institutions for the aged, since groups of old people are readily available. It seems to me we are missing a great deal of important data if we concentrate on the institutionalized aged. The better approach is to study aged people living independently; the institutional group would serve as a control. We should study those who are able to read extensively, to determine whether it is simply a matter of their having better vision, higher motivation, or the fact that they are challenged to be more creative when they are not institutionalized.

The interests of the aged are as varied as those of the rest of the population. In presenting material to older persons, which they may read with low vision devices or in the form of clear type, we should be completely aware of the scope of their interests. A great deal of research will be wasted if we look upon aging as a collosal problem. Rather, in the course of our research, we should sort out those factors which enable a significant percentage of aged people to be very alert and competent in their 70s, 80s and even 90s. Emphasis on the positive, and our ability to create a more active life for all aged people, should be our goals. For the most part, older people are not unlike the rest of the population, except for the fact that they are older.

Deterioration in sensory channels, general health, memory capacity and the ability to process new information may go along with aging, but being handicapped does not necessarily lead to disability. Instead, it may provide a challenge which many older persons are able to overcome. It is this positive side of aging that deserves the most investigation, for it is here that we will find solutions to most of the problems which the aged face in maintaining worth and dignity.

ANSWER FROM DR. TEARE: I feel that, from Mr. Dupress, I should descend. I was hoping that the material of my illustration would give you the true picture of how I felt about the team.

In medicine, as most of you well know, there is the question of how to integrate or how to marshall the specialty resources that can be brought to bear on a particular patient, on a particular illness at some point of time. The family physician is viewed as a crucial member of the team usually because the first contact has been made out of general practice.

The American Society of General Practice is working very hard at trying to define the role that such a family physician might play. Whoever serves as the initial patient contact, must be someone who is knowledgeable of the special skills of the various professions there and who can serve a very critical referral function as well as a coordinating function.

As Dr. Davis says, when paramedical teams include a physician of some specialty and he is known to be a physician, in the last analysis the final legal responsibility falls to the physician member. All other things being equal, regardless of what the special problem is in whose cubicle the main problem falls, the patient will always look, legally, to the physician if suit is involved and not to the occupational therapist or the nurse.

In this mix of health skills needed for interdisciplinary health care when one person has a legal responsibility that is way out of proportion to the others, he is going to assume leadership whether he wants it or not and whether it is appropriate in this kind of case.

ANSWER FROM DR. GAYNES*: On the "captain of the team" issue, let me quote one educator's viewpoint developed in a situation I have encountered.

A consultant in Special Education for a large school district asked me and the ophthalmologist who serves as co-director of our Low Vision Clinic, to act as consultants in planning the education of visually-impaired children in their school system. The educator raised the question, as did we, as to whether some of the children should be educated along sighted lines or was their training to be entirely Braille.

The difficulty in attempting to categorize these, as all children, was that the children refused to fall into specific categories. There were children whose vision was poor who might be considered good candidates for Braille, but their fingers, not being sensitive to touch, or other sensory disturbances, made Braille education difficult. There were children with low vision who had emotional problems, and some had orthopedic problems. In short, these children, from an educational standpoint as well as a physical standpoint, did not belong to any one area of specialization.

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The educator stated that they had had consultants in the various specialties for years, but often did not learn enough about the children to plan, adequately and intelligently, an educational program. He raised the question as to whether a "team" approach might be the most useful way of viewing these youngsters. However, in our discussions, it was felt that in a "team"approach, which simply meant that there were a number of specialists involved, but that the specialists would operate independently and view the child independently, this would only continue the old system.

It was felt that if the information were assembled separately, the conclusions would not necessarily be the same as when there was an interplay between all members of the "team" as they viewed and discussed the child together. This should be considered when looking at special problems which require a greater imagination and solution. We should not be deluded into thinking that having a great number of people separately look at the problem is the equivalent of a true "team" approach. I would suggest that all of the "team" approaches occur simultaneously.